

**DRAFT**



**CORRECTIVE MEASURES STUDY (CMS)  
CHEMFIX TEST UNIT AREA (SWMU 12)**

**OCCIDENTAL CHEMICAL CORPORATION  
DELAWARE CITY, DELAWARE**

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**JULY 2008  
REF. NO. 7462 (47)**  
This report is printed on recycled paper.

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## **4.12        CHEMFIX TEST UNIT AREA (SWMU 12)**

### **4.12.1      OVERVIEW**

#### **Description**

SWMU 12 (the Chemix Test Unit Area) is located to the north of AOC 5 (the Process Area), between AOC 10 (the Former Laydown Area) to the east and the former Oriole Chemical facility to the west. Located to the north of SWMU 12 are AOC 14 (Runoff to the Tributary) and AOC 8 (the Tributary). Figure 4.12.1 presents a location map showing the current topography and boundaries of the area. Figure 4.12.2 presents a 2007 aerial photo of SWMU 12. *Photographs of SWMU 12 will be provided in the final CMS Report.* SWMU 12 was constructed on a natural, existing hill approximately fifteen feet above the marsh area. The construction of the SWMU and the placement of fill over the SWMU have raised the area to approximately 23 feet above the marsh. The surface is currently covered with vegetation (e.g. grasses, rosebushes and shrubs). SWMU 12 covers an area of approximately one half an acre with an elevation above the 100-year flood level (10 feet mean sea level).

SWMU 12 was defined as a SWMU by EPA during the 1986 Plant Phase II RCRA Facility Assessment (RFA). It was originally categorized as a “SWMU of minimal concern”. The status was changed to a “SWMU of concern” during the Phase I RFI due to a concern for the detection of carbon tetrachloride in groundwater beneath the unit (wells A-27S and A-27D). A further review of the data collected in 1994 and the groundwater flow direction at the Site suggested that the carbon tetrachloride is related to the former carbon tetrachloride tank area (SWMU 9) located within AOC 5 and not related to SWMU 12. SWMU 9 is addressed in Section 4.9; the groundwater beneath SWMU 12 is considered part of AOC 9 and is addressed in Section 4.27. Although technically no longer a SMWU of concern, SWMU 12 is being evaluated as part of the CMS for final remedies.

#### **History**

The Chemfix Test Unit was constructed to pilot test a fixation process for mercury-laden brine sludge, which was generated during the mercury cell chlor-alkali process that was conducted at the plant. The unit consisted of four test cells, a start-up pit, and a mixing pit. Pilot tests were completed during the week of October 13, 1975. Approximately 100,000 gallons of brine sludge, 18,000 gallons of mixed brine, and PVC bio-plant sludge were pumped to SWMU 12. These materials were treated by mixing the wastes with dry Portland cement and liquid sodium silicate to form a hardened “clay-like” substance. The 1975 *Chemfixation of Brine Sludges Interim Report* (Diamond Shamrock, December

1975) indicated that leachate samples were collected from the collection pots and analyzed for specific contaminants.

The pilot test findings were documented in the 1991 *Description of Current Conditions Report* (ERM, August 1991). Mercury levels in the leachate ranged from 0.0005 ppm to 0.006 ppm and cadmium from 0.03 ppm to 0.47 ppm. The 1991 *DOCC Report* also states that the pilot leachate sample results indicate that this type of chemical stabilization of the brine sludge was not achievable to the extent required for disposal at a standard (non-secure) landfill. Upon completion of the pilot-testing, the cells were closed, covered with native materials, and vegetated. The stabilized materials are still in place.

The historical conditions of SWMU 12 are depicted by aerial photographs of the Site, and are presented as Figures in Section 2.0. Specifically, Figure 2.\_ (1970) shows the area prior to operations, Figure 2.\_ (1977) shows the area after operations, and Figure 2.\_ (2007) shows the current conditions.

SWMU 12 was investigated during the Phase I RFI, during the Phase II RFI, and more recently during the Additional Sampling Investigation that was completed in 2007.

### **Current Status**

SWMU 12 is inactive. The former test cells are covered with native materials and vegetated. The solidified treated waste materials are still in-place, and the PVC leachate collection pipes filled with grout. No IMs were required at SWMU 12.

## **4.12.2      SUMMARY OF SWMU DOCUMENTATION**

Table 4.12.1 presents a list of the documents that were reviewed and considered in the assessment of SWMU 12.

## **4.12.3      RELEVANT DATA**

This section presents a summary of the data considered by the CMS for SWMU 12. Figure 4.12.1 presents the SWMU 12 sample locations. Table 4.12.2 lists the relevant sample locations for SWMU 12.

#### **4.12.3.1    SOIL**

The soil data collected during the 1993 Phase I RFI and the 2007 additional sampling event are considered relevant for SWMU 12. Four soil samples were collected during the RFI from one soil boring, SB-3, located in a berm between the second and third test cell (see Figure 4.12.1). The samples were collected from intervals: 4-6, 8-10, 10-12, and 15-17 feet below grade and were analyzed for VOCs, SVOCs, metals, and select general chemistry parameters. Two surface soil samples were collected during the 2007 sampling effort at sample locations CFTA-1 and CFTA-2 (see Figure 4.12.1). The 2007 samples were collected from 0-2 feet below grade and analyzed for VOCs, SPLP (Synthetic Precipitation Leaching Procedure) VOCs, total metals, and SPLP metals. The SPLP analysis was selected in order to evaluate the “leachability” of the metals within the soil.

#### **4.12.3.2    WASTE**

Two samples were collected of the treated materials (“wastes”) within the test cells during the 1993 Phase I RFI (locations WB-14 and WB-14A on Figure 4.12.1). Both samples were analyzed for VOCs, SVOCs, metals, and select general chemistry parameters. A TCLP (Toxicity Characteristic Leaching Procedure) leaching analysis was also conducted on the waste sample from WB-14, collected from 2-4 feet below grade. Two waste samples were collected in 2007 at locations CFTA-1 and CFTA-2 (see Figure 4.12.1). The samples were collected from 8-10 feet below grade and analyzed for VOCs, SPLP VOCs, total metals, and SPLP metals.

#### **4.12.3.3    GROUNDWATER**

The groundwater beneath SWMU 12 is considered part of AOC 9 and is addressed in Section 4.27. There are four monitoring wells monitoring SWMU 12, two water table wells, A-27S and A-27D, and two water table wells to the north of SWMU 12, A-66S and A-66D. Groundwater samples from the shallow wells, A-27S and A-66S, represent a composite of infiltration through or around SWMU 12 and groundwater flowing from upgradient of SWMU 12. The deep wells, A-27D and A-66D, monitor only groundwater from upgradient of SWMU 12.

#### **4.12.3.4    SEDIMENT**

There are no sediments in SWMU 12. Sediments potentially associated with historic runoff from SWMU 12 are located in AOC 14 and are addressed in Section 4.32.

#### 4.12.3.5 SURFACE WATER

There is no surface water in SWMU 12.

#### 4.12.3.6 RISK SCREENING

The purpose of the screening is to identify Chemicals of Concern (COCs) for SWMU 12. The relevant SWMU 12 data were compared to the EPA Screening Criteria. Screening results are summarized below and complete screening result tables are provided in Appendix A. There are two sets of tables presented; one set for the screening of the soil data and one set for the screening of the waste. The EPA Screening Criteria are described in Section 1. and Table 1.

The soil and waste data were compared to the two EPA Screening Criteria; Direct Contact (SOIL-1), and Soil-to-Groundwater (SOIL-2). All soil and waste samples were screened separately to both criteria. The EPA HHRA Guidance does not require or recommend screening of waste materials. Screening of the waste materials is being performed in this CMS because remedies considered for SWMU 12 include leaving the waste materials in-place. The groundwater data are reviewed herein for soil results that exceed the soil-to-groundwater screening (SOIL-2) for SWMU 12. If an exceedence of the SOIL-2 screening criterion is identified, but the SWMU 12 does not appear to be impacting groundwater above the groundwater water screening criteria, then the SOIL-2 exceedence is not considered to be an issue.

##### Direct Contact Screening (SOIL-1)

Screening of the soil data indicated no exceedances of the SOIL-1 criteria; therefore there are no COCs in the soil.

The following table lists the COCs based on direct-contact screening of the waste data.

<i>Waste Direct-Contact Screening</i>	Unit	SOIL-1	<i>Number of Samples</i>	<i>Number of Detects Above Criteria</i>	<i>Maximum Detected</i>	<i>Max Detected Location</i>
<i>Parameters</i>						
Metals						
Mercury	mg/kg	6.5	4	2	80	WB-14-1993

### Soil-to-Groundwater Screening (SOIL-2)

The following table lists the COCs based on soil-to-groundwater screening of the soil data.

<i>Soil Soil-to-Groundwater Screening</i>	<i>Units</i>	<i>SOIL-2</i>	<i>Number of Samples</i>	<i>Number of Detects Above Criteria</i>	<i>Maximum Detected</i>	<i>Max Detected Location</i>
<i>Parameters</i>						
<i>Volatile Organic Compounds</i>						
1,2-Dichloroethane	mg/kg	0.00104	7	3	0.47	SB-03
Benzene	mg/kg	0.00190	7	3	0.035	SB-03
Chloroform (Trichloromethane)	mg/kg	0.000907	7	1	0.017 J	SB-03
Tetrachloroethene	mg/kg	0.00466	7	1	0.013 J	SB-03
Vinyl chloride	mg/kg	0.000123	7	2	0.94	SB-03
<i>Metals</i>						
Arsenic	mg/kg	0.0261	7	6	4.5	SB-03
Manganese	mg/kg	952	7	1	1600	SB-03

The following table lists the COCs based on soil-to-groundwater screening of the waste data.

<i>Waste Soil-to-Groundwater Screening</i>	<i>Units</i>	<i>SOIL-2</i>	<i>Number of Samples</i>	<i>Number of Detects Above Criteria</i>	<i>Maximum Detected</i>	<i>Max Detected Location</i>
<i>Parameters</i>						
<i>Volatile Organic Compounds</i>						
1,2-Dichloroethane	mg/kg	0.00104	4	1	0.009 J	CFTA-2
Benzene	mg/kg	0.00190	4	1	0.0051 J	WB-14A-1993
Chloroform (Trichloromethane)	mg/kg	0.000907	4	4	0.043 B	CFTA-2
Tetrachloroethene	mg/kg	0.00466	4	4	0.09	WB-14A-1993
Trichloroethene	mg/kg	0.000263	4	2	0.012 J	WB-14A-1993
Vinyl chloride	mg/kg	0.000123	4	2	0.22	WB-14A-1993
<i>Metals</i>						
Arsenic	mg/kg	0.0261	4	3	2.8	CFTA-1
Mercury	mg/kg	2	4	2	80	WB-14A-1993

#### **4.12.4 IDENTIFICATION OF KEY COCS**

This section presents a review of the screening results with the objective of defining Key COCs for SWMU 12. The results of both the soil and waste screening are discussed.

Figure 4.12.3 presents a “dot-plot” of the mercury results for surface soils (0-2 feet). Mercury was not detected in the surface soil samples. The mercury results for subsurface soils and waste are presented on Figure 4.12.4. Based on direct contact screening (SOIL-1), only mercury is an issue in the waste material. Mercury was not

detected above the SOIL-1 criterion in the subsurface soil samples. The soil-to-groundwater screening (SOIL-2) identified three metals and six VOCs as COCs: arsenic, manganese, mercury, 1,2-dichloroethane, benzene, chloroform, tetrachloroethene, trichloroethene, and vinyl chloride. However, as supported below, mercury is considered to be the only Key COC in SWMU 12, and only for the direct-contact pathway. The analysis presented below demonstrates that the soil-to-groundwater pathway is not a pathway of concern.

- Mercury concentrations exceeded both the SOIL-1 and SOIL-2 screening criteria in two of the waste samples (WB-14 and CFTA-1). The other two waste samples (WB-14A and CFTA-2) did not exceed either of the mercury screening criteria. None of the four soil samples from soil boring (SB-3) or the two shallow surface soil samples from CFTA-1 and CFTA-2 exceeded either SOIL-1 or SOIL-2 for mercury. With respect to the SOIL-2 exceedences, mercury has been detected in groundwater at both A-27S and A-66S. However, the concentration trends have been declining and there were no exceedences of the mercury MCL in either well in 2007. Mercury is a concern only for the direct contact pathway, not for the soil-to-groundwater pathway.
- Arsenic exceeded the SOIL-2 criterion. Review of the water quality data from A-27S and A-66S showed a single exceedence of the groundwater MCL for arsenic in 25 analyses (counting both total and dissolved arsenic). The exceedence was in well A-27S during the RFI in 1993. Arsenic levels in soil do not pose a soil-to-groundwater issue in SWMU 12.
- Manganese exceeded the SOIL-2 criterion in one sample. That sample contained 1,600 mg/kg of manganese compared to a screening criterion of 952 mg/kg. All other samples were below the SOIL-2 criterion. There have been manganese exceedences of the groundwater screening criteria in both wells downgradient of SWMU 12; however, manganese is present in groundwater upgradient and side gradient at similar levels. There is no indication that SWMU 12 is a source for manganese in groundwater. The manganese levels in soil do not pose a soil-to-groundwater issue in SWMU 12.

There were no VOC exceedences of the direct contact screening. Six VOCs were identified in the SOIL-2 (soil-to-groundwater) screening. However, review of the groundwater data suggests that there are no soil-to-groundwater impacts associated with SWMU 12. These parameters are not a soil-to-groundwater issue in SWMU 12.

- 1,2-dichloroethane was not detected in the groundwater in any of the SWMU 12 wells.
- Benzene was not detected in the groundwater in any of the SWMU 12 wells above its MCL.

- Chloroform concentrations exceed the low screening criterion in all of the SWMU 12 wells. However, concentrations in the shallow wells potentially impacted by SWMU 12 (A-27S and A-66S) have consistently been below the 0.080 mg/L MCL for total trihalomethanes. Higher levels of chloroform have been detected in groundwater from the deep wells, A-27D and A-66D. However, these elevated chloroform concentrations are related to AOC 5; wells upgradient of SWMU 12 typically have higher concentrations than the two wells downgradient of SWMU 12.
- Prior to the construction of the Process Area barrier wall, tetrachloroethene concentrations were below the MCL in A-27S and above the MCL in A-27D. Groundwater in A-27D monitors water coming from upgradient of SWMU-12; thus, prior to the barrier construction there was no evidence of a tetrachloroethene impact associated with SWMU 12 (note: A-66S and A-66D were constructed after the barrier wall was completed). Tetrachloroethene concentrations increased in both A-27S and A-27D during and following the construction of the barrier wall and have remained above the standard since. The correlation between increased tetrachloroethene and the barrier wall suggests a cause and effect relationship that is unrelated to SWMU 12. Tetrachloroethene does not appear to be a soil-to-groundwater issue in SWMU 12.
- Trichloroethene exhibits similar behavior to the tetrachloroethene, increasing in A-27S and A-27D during and following construction of the Process Area barrier wall. As with tetrachloroethene, the only known source is upgradient of AOC 5. Trichloroethene has never been detected above screening levels in A-66S and A-66D. This parameter is not a soil-to-groundwater issue in SWMU 12.
- Vinyl chloride exhibits occasional exceedences of the MCL in well A-27S. Vinyl chloride is a daughter product of tetrachloroethene and trichloroethene, and appears to be related to these chemicals.

In addition to the comparison of the results to the screening criteria and the discussion of the groundwater concentrations in A-27S and A-66S, the SPLP analyses for the surficial and waste samples from the CFTA sample locations resulted in non-detectable mercury concentrations. A TCLP leaching analysis conducted on a waste sample from WB-14 indicated that mercury in the leachate ranged from 0.0005 ppm to 0.006 ppm (DOCC Report, ERM, August 1991).

#### **4.12.5      CONCEPTUAL MODEL**

The Conceptual Model section lays the foundation for the development of remedial actions. The discussion considers only Key COCs and potential exposure pathways identified above. For SWMU 12, mercury is considered to be the only Key COC and only for the direct-contact pathway.

According to the *Chemfixation of Brine Sludges Interim Report*, the test unit was constructed in September 1975 and filled in October 1975. The unit consisted of four test cells, a start-up pit, and a mixing pit. The test cells were excavated into native material and the excavated materials were used to create dikes around each cell. The cells were lined with polyethylene film. Perforated PVC sewer pipe was placed into the basins and covered with crushed stone. The purpose of the PVC pipe was to collect any water that might leach through the sludge after it was fixated. The collection pipes were constructed to drain into polyester collection pots on the south side of the test cells, allowing the collection of leachate samples. Upon completion of the pilot-testing, the PVC pipes were filled with grout and the cells were covered with native materials and vegetated, leaving the stabilized materials in place.

The original documentation of SWMU 12 in the *Chemfixation of Brine Sludges Interim Report* described the dimensions of each of the four test cells as 25 feet in width and 60 feet in length. However, during the Phase I RFI investigation, a ground-penetrating radar (GPR) survey was completed to estimate the location, lateral extent, and depth of the buried waste material. The survey identified four linear anomalies approximately 100-feet long by 25-feet wide. These findings were confirmed with a small diameter boring program completed along the GPR grid. The dimensions of SWMU 12 shown on Figure 4.12.1 are based on the GPR data.

The RFI Phase I sampling program indicated that the cap/surface soils were from 1.5 to 3 feet (WB-14, WB-14A) in thickness. The sampling completed during the Additional Sampling Investigation completed in 2007 indicated that the cap/surface soils ranged from 3 to 5 feet (CFTA-1, CFTA-2) at the southern end of the unit.

### **SWMU 12 Geology**

SWMU 12 is located on top of the Columbia Formation. The surface and subsurface soils are primarily sands and silty sands from the surface down to the bottom of the Water Table aquifer, which coincides with the top of the Potomac clay. No Potomac A or Potomac B Sands have been identified beneath SWMU 12. The topography in this area has been modified and regraded and fill materials, if any, are indistinguishable from the Columbia Formation. Offsite sources of fill consisted of the Columbia sands. The SWMU cap/surficial soils are sandy silts and silty sands, similar in color and composition to the Columbia Formation.

Figure 4.12.5 provides a geologic cross-section through SWMU 12. The cross-section extends from AOC 8 through AOC 14 and SWMU-12 to AOC 5. Boring logs as well as several CPTs in the area were used to characterize the subsurface geology. Four waste

borings (WB-14, WB-14A, CFTA-1 and CFTA-2) were used to characterize the waste materials. There is one well cluster through an interior soil dike in SWMU 12 (A-27S and A-27D) and one well cluster to the north of SWMU 12 (A-66S and A-66D). The barrier wall separating SWMU 12 from AOC 5 is approximately 25 feet south of SWMU 12 as shown on the cross-section.

### **SWMU 12 Hydrogeology**

The water table surface is approximately 17 to 19 feet below the ground surface beneath SWMU 12. The water table is at or near grade where the land surface dips down and becomes the marsh at AOC 8 to the east and north. Groundwater flow in the vicinity of SWMU 12 is depicted on the monthly groundwater gradient maps prepared for the Monthly Progress Reports and Annual PMP. Prior to the construction of the Process Area Barrier Wall, groundwater flow in the Water Table beneath the Process Area (now AOC 5) and SWMU 12 was northward, discharging to AOC 8 in the vicinity of Station G. Since the completion of the barrier wall in 2003, groundwater flow is still northward beneath SWMU 12 with discharge to AOC 8 in the vicinity of Station G; however, the upgradient groundwater is from water that flows along the barrier wall from the east and west prior to converging and flowing north beneath AOC 12. Northward of AOC 12, near the edge of AOC 8, a small component of groundwater often discharges directly to surface via seeps.

Figure 4.12.5 presents a geologic cross section through SWMU 12. There are four wells in the vicinity of SWMU 12: A-27S, A-27D, A-66S, and A-66D. Only the two shallow wells could potentially be impacted by a release from SWMU 12. Precipitation recharge infiltrates vertically through or around the unsaturated zone at SWMU 12 and eventually recharges the water table. Groundwater samples from the shallow wells, A-27S and A-66S, represent a composite of infiltration and groundwater flowing from upgradient of SWMU 12. The deep monitoring wells (A-27D and A-66D) monitor only groundwater flowing from upgradient of SWMU 12.

Groundwater flows laterally until it approaches the Recent Sediments in the Red Lion Creek Paleochannel and the AOC 8. As it approaches the Recent Sediments, groundwater flows vertically upward to discharge to AOC 8. Groundwater does not flow horizontally into the Recent Sediments.

### **SWMU 12 Exposure Pathways**

The Draft HHRA identified potential receptors for the Site. For SWMU 12, industrial workers, trespassers, and golfers are populations that could potentially be exposed to direct contact with mercury, the only Key COC, based on the potential current and

future use. As mercury is a volatile COC, volatile emissions are a potential exposure pathway to the same populations as direct contact. Residential direct contact exposure is not considered a potential current or future exposure pathway. Currently contact with SWMU 12 soils is managed by restricted access and a formal Excavation Procedure established for the facility.

#### **4.12.6 CORRECTIVE ACTION OBJECTIVES**

Corrective action objectives (CAOs) have been developed to protect human health and the environment for the current land use and for potential future land uses of the Site. The CAOs consider the Cleanup Goals for the Site and the potential exposure and transport pathways identified above. The CAOs are the basis for the identification of remedial actions to be considered for SWMU 12.

The CAOs for SWMU 12 are summarized below:

##### **Soil & Waste**

##### ***Human Health***

- Eliminate direct contact with mercury impacted waste materials by:
  - *Achieving the preliminary Cleanup Goal for mercury of 60 mg/kg in surface soils and waste (0-2 feet); or by*
  - Pathway elimination.
- Eliminate ambient air vapor exposure pathway for a Construction Worker by:
  - *Achieving the preliminary Cleanup Goal for mercury of 11 mg/kg in vadose zone soils and waste; or by*
  - Health and Safety Procedures.
- Eliminate indoor air vapor exposure pathway for a Golf Course Employee/Industrial Worker by:
  - *Achieving the preliminary Cleanup Goal for mercury of 17 mg/kg or 30 mg/kg in vadose zone soils and waste; or by*
  - Engineering Controls.

The Conceptual Model Cross Section, Figure 4.12.5, is used in developing assumptions required to develop and evaluate possible remedies for SWMU 12. The thickness of the cap/surface soils are estimated to range from 1.5 to 5 feet. Investigative data indicates the waste materials are located anywhere from 1.5 to 8 feet below the ground surface. As shown on Figure 4.12.5, the waste materials, including the pipes and liner at the base of the test cells, are estimated to be located from 2 to 8 feet below grade (estimated thickness of 6 feet).

Mercury was not detected in the surface samples (0-2 feet). Therefore the direct contact Cleanup Goal for mercury, 60 mg/kg, is met at these two locations (CFTA-1, CFTA-2). The existing cover provides a barrier to prevent direct contact to the buried waste materials. However, the thickness of the cover may be less than 2 feet in some locations.

The other two Cleanup Goals for mercury, the ambient air vapor exposure pathway and the indoor air vapor exposure pathway, apply to the soil and waste materials in the vadose zone; from the surface, approximately 23 feet msl, to the depth of the groundwater table surface, approximately 4 feet msl. Mercury concentrations exceeded these two Cleanup Goals in two of four waste samples (WB-14, 2-4 feet, and CFTA-1, 8-10 ft.).

The future use of SWMU 12 is limited by the existing topographic relief at this unit. The ground surface is mounded with a small level surface at the top of the mound. Future construction of a building at SWMU 12 is very unlikely. The indoor air vapor exposure pathway is included as a CAO for SWMU 12 to be consistent with CAOs considered for adjacent areas of the Site, such as AOC 10.

The classification of the waste materials would determine the disposal requirements if the materials were to be excavated. Most of the waste that was placed in SWMU 12 consisted of brine purification sludge from the mercury cell process for chlorine production; a listed hazardous waste, K071. Also a smaller volume consisted of a mixture of the brine sludge (K071 or K106) and PVC bio-plant sludge. The Chemfix process was a chemical and physical stabilization treatment process. The waste was mixed with dry portland cement and liquid sodium silicate to form a clay-like substance.

For listed hazardous wastes, there are LDRs (Land Disposal Restrictions) and TCLP limits that are required to be met prior to disposal at a US Hazardous Waste Landfill Facility. If the total concentration of mercury in the waste is at or above 260 mg/kg, then the waste is required to undergo pretreatment by retorting prior to disposal. If the concentration of mercury is below 260 mg/kg, the K071 waste is required to meet the LDR TCLP limit for mercury of 0.025 mg/l, prior to disposal.

Review of analytical results indicates the waste material meets LDR and TCLP limits for mercury. The results from 4 treated waste samples, indicate the total mercury was well below 260 mg/kg and ranged from 0.66 mg/kg to 80 mg/kg. The TCLP results from one sample indicated (The DOCC Report, 8/1991) that mercury in the leachate ranged from 0.0005 ppm to 0.006 ppm (less than 0.025 mg/l or ppm).

#### **4.12.7      FINAL REMEDY EVALUATION**

Potential alternatives have been developed to meet the CAOs for the Site and SWMU 12. The following potential alternatives are identified for SWMU 12:

- Alternative 1 - No Action
- Alternative 2 - Institutional Controls (ICs)
- Alternative 3 - Cover - Vegetative Soil (2 feet)
- Alternative 4 - Excavation/Cover- Vegetative Soil (2 feet)

The following sections provide descriptions and an initial screening for each of the alternatives. Each screening considers the three RCRA final remedy performance standards. Alternatives that do not meet the performance standards are not retained. For the alternatives that meet the performance standards, this section provides a detailed analysis based on the five RCRA balancing criteria.

##### **4.12.7.1      DESCRIPTION OF ALTERNATIVES**

This Section provides a description for each of the potential alternatives. Every alternative includes long-term performance monitoring and Institutional Controls (ICs). ICs are discussed in Section 1. and may include restrictions to control the future use of the Site, notifications, excavation restrictions, health and safety requirements for construction workers, and design requirements for building foundations. Appropriate ICs are defined for each alternative. An Environmental Covenant (EC) would be the mechanism to prescribe and enforce ICs for the Site and for SWMU 12.

##### **Alternative 1- No Action)**

This Alternative is identified and considered as a baseline for comparison to other alternatives. Waste materials would be left in-place. The existing cap/surface soils would provide a barrier to the buried waste materials.

The Federal Emergency Management Agency (FEMA) 100-year Base Flood Elevation (BFE) is 9.81 feet (NGVD 29, NAD 27) and defines the boundary of the 100-year floodplain. The BFE is located outside SWMU 12 and a distance greater than 50 feet to the north of SWMU 12, near the Tributary (AOC 8). This Alternative would not impact the BFE.

##### **Alternative 2- Institutional Controls (ICs)**

Alternative 2 would achieve Human Health CAOs by ICs. Waste materials would be left in-place. The ICs would include restrictions on the future use of SWMU 12 and a perimeter fence would be installed to restrict access to SWMU 12 for the purpose of controlling the potential direct contact pathway to soils and waste materials located in the surface, from 0 to 2 feet below grade. ICs would also include restrictions to prohibit land-disturbing activities and establish excavation and health and safety procedures to control the ambient air vapor exposure pathway for a Construction Worker. ICs would define building design requirements to control the indoor air vapor exposure pathway for a future worker.

Alternative 2 would not impact the FEMA 100-year BFE.

#### *Alternative 3- Cover- Vegetative Soil (2 feet)*

Alternative 3 would achieve Human Health CAOs by placing 2 feet of clean fill over the existing grade, vegetating, and implementing ICs. Waste materials would be left in-place.

Figure 4.12.6 presents a layout for Alternative 3. ICs would include restrictions on the future use of SWMU 12. A 2-foot vegetated soil cover would be constructed to eliminate the direct contact pathway. ICs would also include restrictions to prohibit land-disturbing activities and establish excavation and health and safety procedures to control the ambient air vapor exposure pathway for a Construction Worker. ICs would define building design requirements to control the indoor air vapor exposure pathway for a future worker.

The soil cover components are described below.

- vegetative cover
- 6-inches topsoil
- 18-inches clean fill

The elevation of the ground surface in SWMU 12 would be raised by 2 feet. An orange plastic snow fence would be placed between the existing surface soils and the soil cover to serve as a visual marker.

Alternative 3 would not impact the FEMA 100-year BFE.

#### *Alternative 4- Excavation/Cover- Vegetative Soil (2 feet)*

Alternative 4 would achieve Human Health CAOs by excavating and removing the buried waste, placing a soil cover and vegetating the cover.

Figure 4.12.7 presents a layout for Alternative 4. Human Health CAOs would be achieved by completely removing the waste materials. No ICs would be required for the remaining soil in SWMU 12.

The soil cover components are described below.

- vegetative cover
- 6-inches topsoil
- 18-inches clean fill

Excavation to an elevation of 12 feet msl, would remove all of the buried waste materials. The existing cap/surface soils above and some soil situated immediately below the waste materials would also be removed. The volume of material to be excavated is estimated to be approximately 9,680 cubic yards, based on an excavation depth of 10 feet in the area shown on Figure 4.12.7. At a density of 1.5 tons per cubic yard, the weight would be approximately 14,520 tons. The materials would be disposed offsite or onsite at a permitted facility in compliance with applicable regulations. An onsite option may include disposal in Cell 3 of the New Brine Sludge Landfill. Cell 3 is currently empty and could be constructed in the future in accordance with regulatory requirements. The selection of a disposal facility is dependent upon the waste classification. The existing monitoring wells, A-27S and A-27D, would be decommissioned.

Following excavation and removal activities, a soil cover would be placed that would grade in to the surrounding areas.

Alternative 4 would not impact the FEMA 100-year BFE. During excavation the ground surface would be lowered to an elevation close to the BFE. However the BFE is located a distance greater than 30 feet north of the work area and the ground surface elevation rises 6 feet above the BFE along that portion of land.

#### **4.12.7.2 THRESHOLD SCREENING OF ALTERNATIVES**

A threshold screening of the potential alternatives is presented in this Section. The threshold screening is a process by which the alternatives are evaluated to determine if they meet the RCRA final remedy performance standards. The threshold screening is summarized in Table 4.12.3. An evaluation of each alternative's ability to control the

potential pathways identified for SWMU 12, described in the CAOs, is provided in Table 4.12.4. Alternatives that pass the screening are retained for further evaluation.

### **Alternative 1- No Action**

#### ***Protect Human Health and the Environment***

This alternative is protective of human health and the environment. It addresses the direct contact potential exposure pathway. The existing cap/surface soils would prevent direct contact with the waste materials.

#### ***Achieve Media Cleanup Objectives***

The Human Health CAO to prevent direct with waste materials would be met by existing conditions. The CAO would be met immediately upon implementation of the alternative. Waste materials containing concentrations of mercury above the Cleanup Goals would remain in-place. The existing cap/surface soils provide a barrier to the buried waste materials.

#### ***Remediate Sources of Releases***

This alternative will control potential source releases. The existing cap/surface soils will prevent direct contact.

### **Alternative 2- Institutional Controls (ICs)**

#### ***Protect Human Health and the Environment***

This alternative is protective of human health and the environment because it addresses risks posed by all of the potential exposure pathways. It prevents direct contact with and controls the vapor exposure pathways to waste materials.

#### ***Achieve Media Cleanup Objectives***

Human Health CAOs would be met by existing conditions and the application of ICs. The CAOs would be met immediately upon implementation of the alternative. Waste materials containing concentrations of mercury above the Cleanup Goals would remain in-place. ICs, including a perimeter fence, would be installed to eliminate the direct contact pathway. The existing cap/surface soils provide a barrier to the buried waste materials. ICs would be applied to eliminate the vapor exposure pathways.

#### ***Remediate Sources of Releases***

This alternative will control potential source releases. The existing cap/surface soils and ICs including fencing will prevent direct contact.

### **Alternative 3- Cover- Vegetative Soil (2 feet)**

#### ***Protect Human Health and the Environment***

This alternative is protective of human health and the environment because it does address risks posed by all of the potential exposure pathways. It prevents direct contact with and controls the vapor exposure pathways to waste materials.

#### ***Achieve Media Cleanup Objectives***

Human Health CAOs would be met by a combination of containment measures and ICs. The CAOs would be met immediately upon implementation of the alternative. Waste materials containing concentrations of mercury above the Cleanup Goals would remain in-place. Placement of the 2-feet of soil cover would provide achievement of the direct contact Cleanup Goal for mercury. The existing cap/surface soils provide a barrier to the buried waste materials. However, a continuous 2-feet of cover over the entire area is uncertain. ICs would be applied to eliminate the vapor exposure pathways.

#### ***Remediate Sources of Releases***

This alternative will control potential source releases. The additional soil cover and ICs will prevent direct contact.

### **Alternative 4- Excavation/Cover- Vegetative Soil (2 feet)**

#### ***Protect Human Health and the Environment***

This alternative is protective of human health and the environment because it does address risks posed by all of the potential exposure pathways. It eliminates the direct contact and vapor exposure pathways to waste materials by removal and disposal at a permitted facility.

#### ***Achieve Media Cleanup Objectives***

Human Health CAOs would be met by removal of the waste materials. No ICs would be required for the remaining soil. The CAOs would be met immediately upon implementation of the alternative.

#### ***Remediate Sources of Releases***

This alternative will eliminate potential source releases by completely removing the waste materials.

#### **4.12.7.3     DETAILED EVALUATION OF ALTERNATIVES**

All four alternatives were retained following the threshold screening and are evaluated further in this Section. A detailed analysis of these alternatives based on the five RCRA balancing criteria is presented in this Section. The balancing criteria are defined and a comparative ranking metric is presented in Table 4.12.5. A summary of the detailed analysis of Alternatives is presented in Table 4.12.6. A weighted numerical ranking of the detailed analysis results is presented in Table 4.12.7.

- Alternative 1 - No Action
- Alternative 2 – Institutional Controls (ICs)
- Alternative 3- Cover - Vegetative Soil (2 feet)
- Alternative 4 - Excavation/Cover- Vegetative Soil (2 feet)

##### **Alternative 1- No Action**

##### ***Long-Term Reliability and Effectiveness***

The reliability and effectiveness of this alternative is dependent maintenance of the existing vegetative cover. The indefinite lifetime expectancy is dependent on maintenance of the cover integrity.

##### ***Reduction of Toxicity, Mobility and/or Volume***

Alternative 1 does not change the toxicity, mobility and/or volume of the waste materials in SWMU 12. The existing cap/surface soils provide a barrier and prevent exposure and mobility of the buried waste materials, if the integrity of the cover is maintained.

##### ***Short-Term Effectiveness***

Alternative 1 corrective measures do not cause any short-term impacts.

##### ***Implementability***

Alternative 1 is fully implementable.

##### ***Cost***

The estimated costs are summarized below and consider Operation and Maintenance (O&M) of the alternative for 30 years. There are no capital costs associated with this

alternative. O&M costs include maintenance of the existing cover and quarterly inspections.

Capital Cost: \$0  
Annual O&M Cost: \$1,000  
Present Value: \$22,000

### **Alternative 2- Institutional Controls (ICs)**

#### ***Long-Term Reliability and Effectiveness***

The reliability and effectiveness of this alternative is primarily dependent upon ICs (fencing to prevent direct contact) and maintenance of the existing vegetative cover. The indefinite lifetime expectancy is dependent on ICs (fencing) and maintenance of the cover integrity.

#### ***Reduction of Toxicity, Mobility and/or Volume***

Alternative 2 does not change the toxicity, mobility and/or volume of the waste materials in SWMU 12. The existing cap/surface soils provide a barrier and prevent exposure and mobility of the buried waste materials, if the integrity of the cover is maintained.

#### ***Short-Term Effectiveness***

Alternative 2 corrective measures do not cause any short-term impacts.

#### ***Implementability***

Alternative 2 is fully implementable. An Environmental Covenant would be established with the state of Delaware as a mechanism to enforce ICs.

#### ***Cost***

The estimated costs are summarized below and consider O&M of the alternative for 30 years. Capital costs include installation of a perimeter fence. O&M costs include maintenance of the existing cover and quarterly inspections.

Capital Cost: \$23,000  
Annual O&M Cost: \$1,000  
Present Value: \$45,000

### **Alternative 3- Cover- Vegetative Soil (2 feet)**

### ***Long-Term Reliability and Effectiveness***

Alternative 3 is reliable and effective. The indefinite lifetime expectancy is dependent on maintenance of the cover integrity.

### ***Reduction of Toxicity, Mobility and/or Volume***

The placement of additional soil cover over the existing cap/surface soils would reduce the possible exposure and mobility of buried waste materials, if the integrity of the cover is maintained.

### ***Short-Term Effectiveness***

Alternative 3 corrective measures do not cause any short-term impacts.

### ***Implementability***

Alternative 3 is fully implementable. An Environmental Covenant would be established with the state of Delaware as a mechanism to enforce ICs. It requires standard construction technology and equipment.

### ***Cost***

The estimated costs are summarized below and consider O&M of the alternative for 30 years. Capital costs include placement of 2 feet of soil cover and vegetation. O&M costs include maintenance of the cover and quarterly inspections.

Capital Cost: \$87,000

Annual O&M Cost: \$1,000

Present Value: \$109,000

### **Alternative 4- Excavation/Cover- Vegetative Soil (2 feet)**

### ***Long-Term Reliability and Effectiveness***

Alternative 4 is reliable and effective. The waste materials would be completely removed and no further maintenance or monitoring would be required.

### ***Reduction of Toxicity, Mobility and/or Volume***

The waste materials would be completely removed from SWMU 12 and disposed at a permitted facility. Alternative 4 eliminates the toxicity, mobility and volume of waste materials from SWMU 12.

### ***Short-Term Effectiveness***

Alternative 4 corrective measures may cause potential for temporary increased exposure to and potential migration of waste materials during excavation. There would be truck traffic during waste transport to a permitted disposal facility.

### ***Implementability***

Alternative 4 is fully implementable. It requires standard construction technology and equipment. Waste material staging and transport would be required. Confirmation sampling of the soils to remain in-place would be performed.

### ***Cost***

The estimated costs are summarized below. Capital costs include excavation and transport to a permitted disposal facility. Three disposal options are considered. Capital costs also include placement of 2 feet of soil cover and vegetation. There are no O&M costs associated with this alternative.

#### **4) – Offsite Disposal –Hazardous Waste**

Capital Cost: \$9,370,000  
Annual O&M Cost: \$0  
Present Value: \$9,370,000

#### **4a) – Offsite Disposal – Non-Hazardous Waste**

Capital Cost: \$2,256,000  
Annual O&M Cost: \$0  
Present Value: \$2,256,000

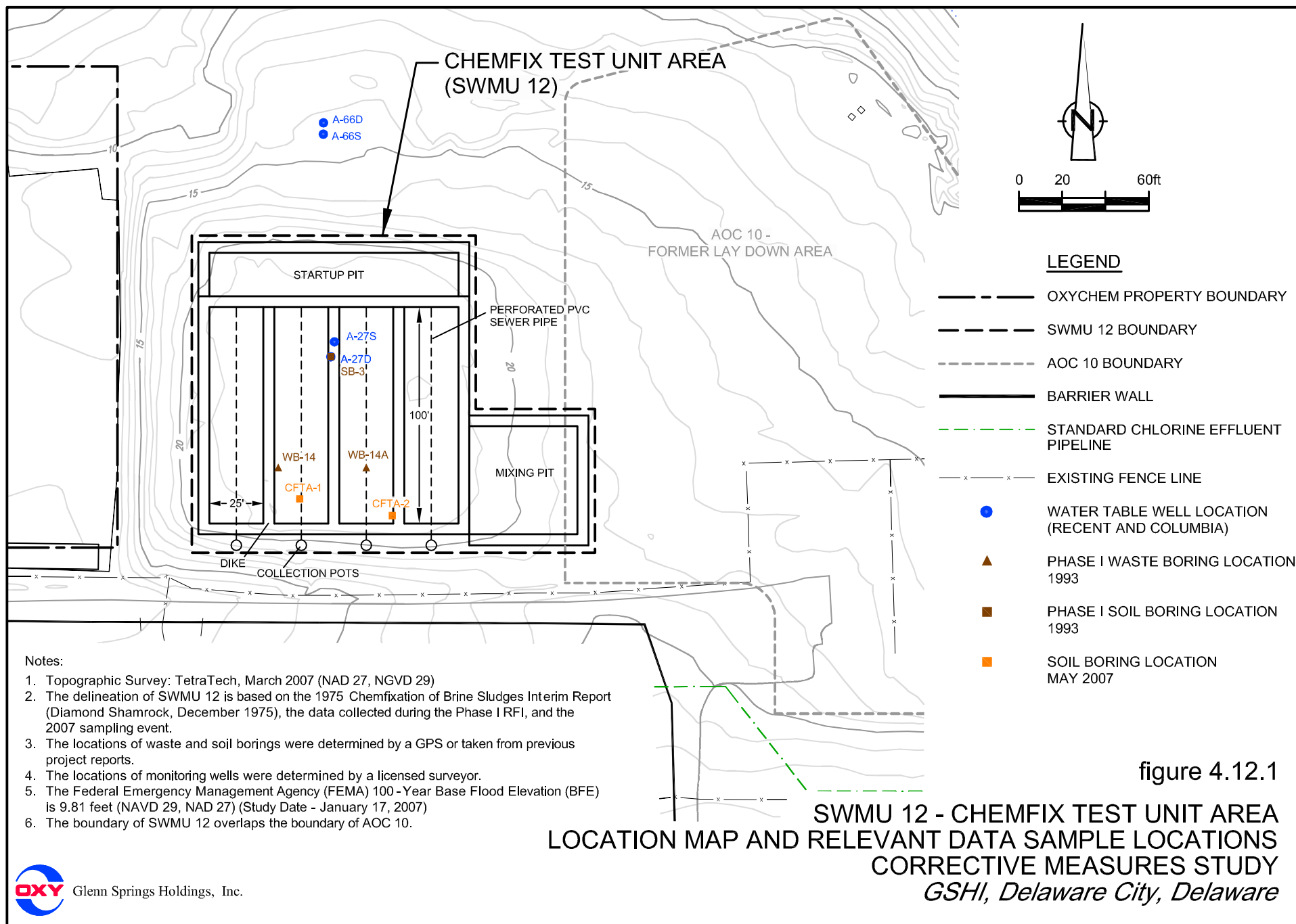
#### **4b) – Onsite Disposal – NBSL (Cell 3): Hazardous Waste**

Capital Cost: \$1,408,000  
Annual O&M Cost: \$0  
Present Value: \$1,408,000

### **4.12.8 PROPOSED REMEDY**

*A proposed remedy will be provided in the final CMS report.*

## FIGURES



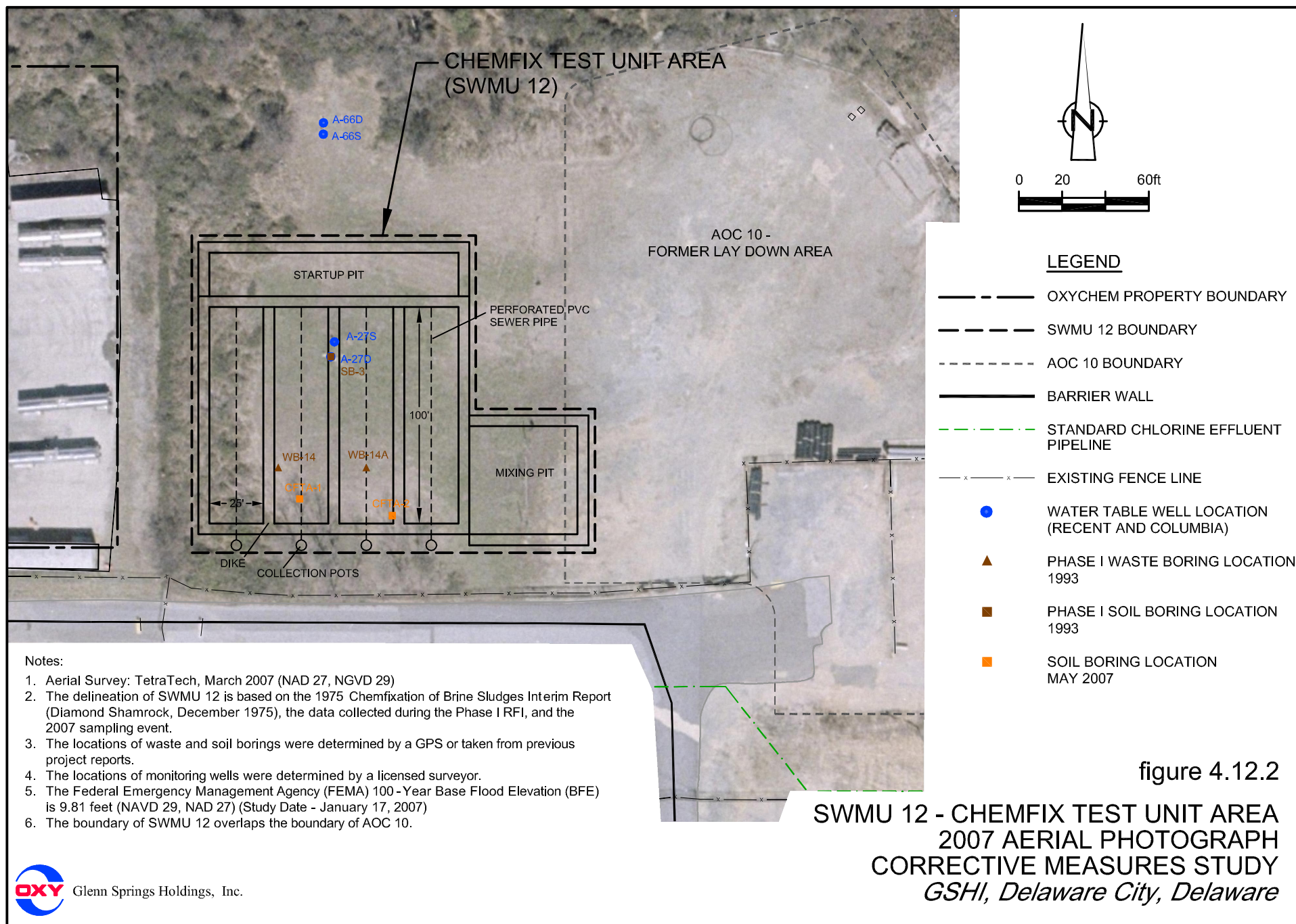


figure 4.12.2

**SWMU 12 - CHEMFIX TEST UNIT AREA**  
**2007 AERIAL PHOTOGRAPH**  
**CORRECTIVE MEASURES STUDY**  
*GSHI, Delaware City, Delaware*

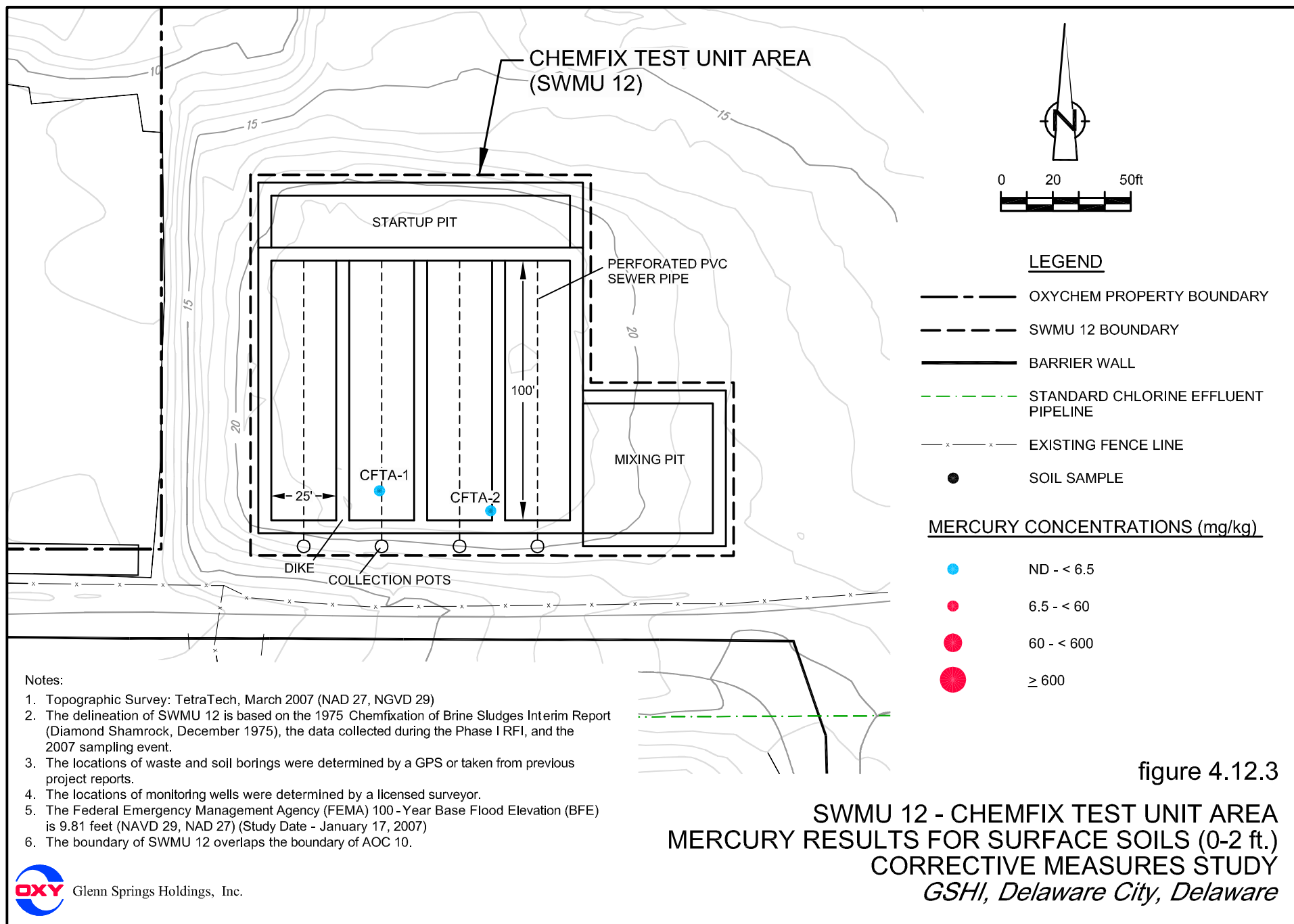
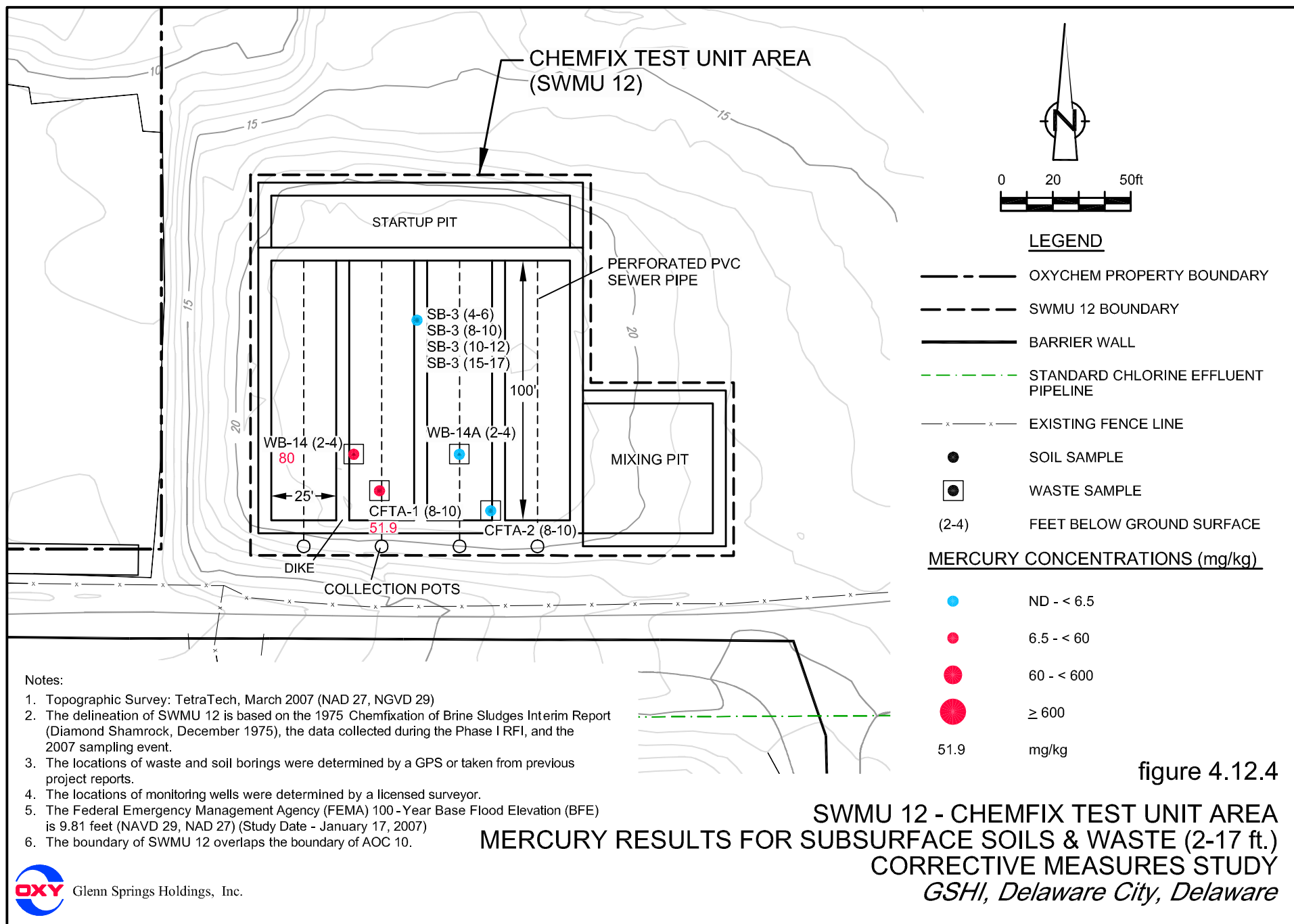


figure 4.12.3

**SWMU 12 - CHEMFIX TEST UNIT AREA**  
**MERCURY RESULTS FOR SURFACE SOILS (0-2 ft.)**  
**CORRECTIVE MEASURES STUDY**  
*GSHI, Delaware City, Delaware*



**NORTH**

**SOUTH**

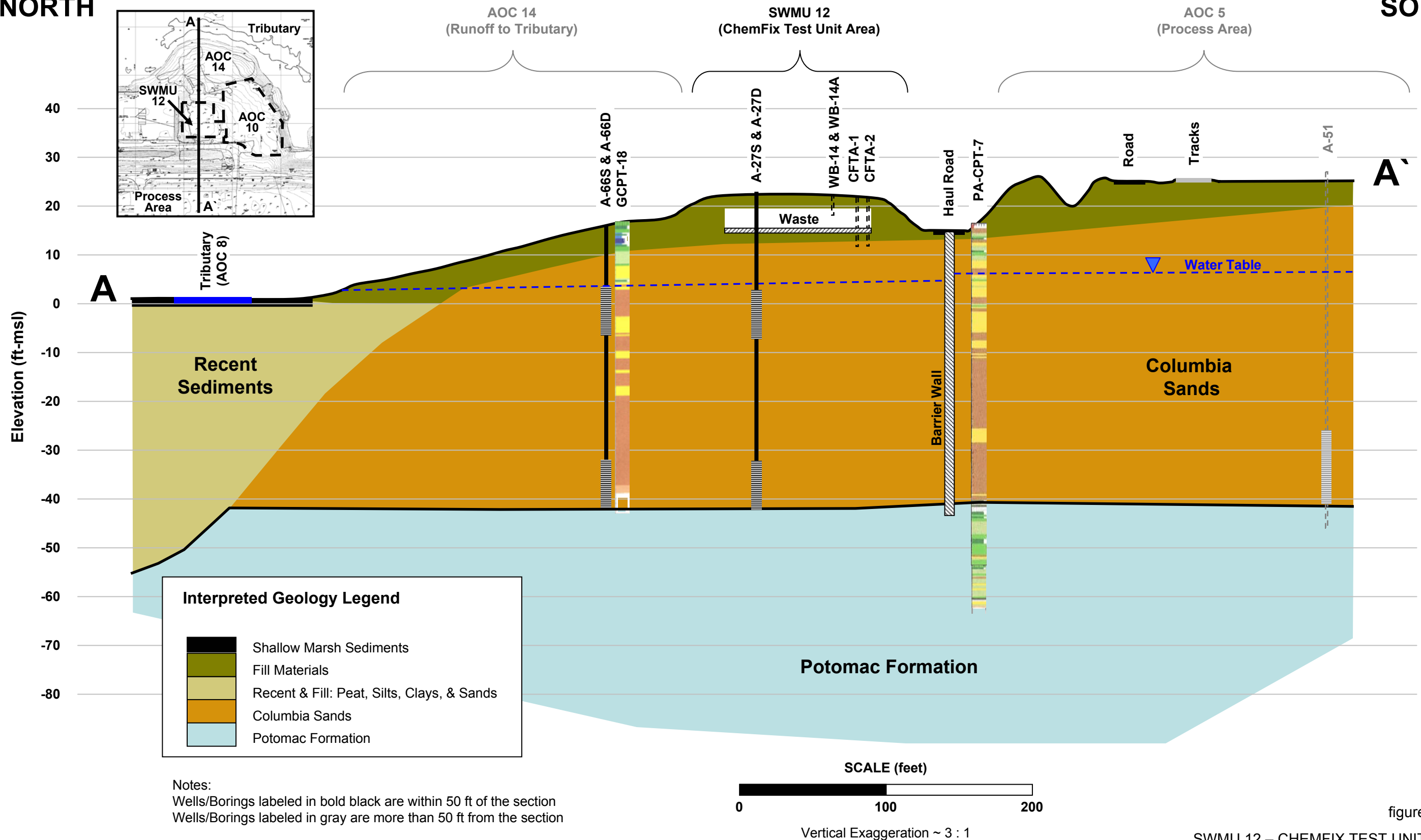
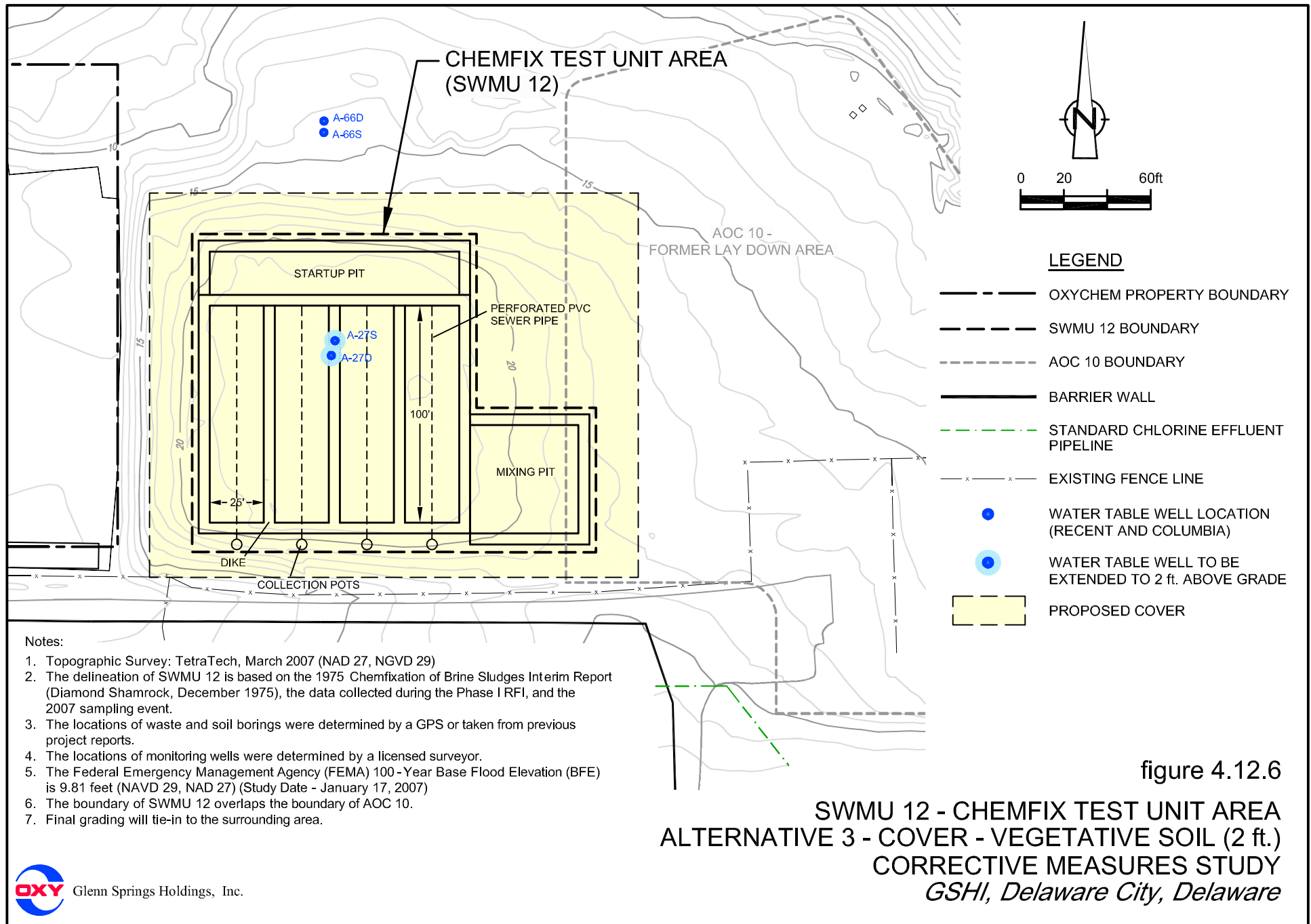
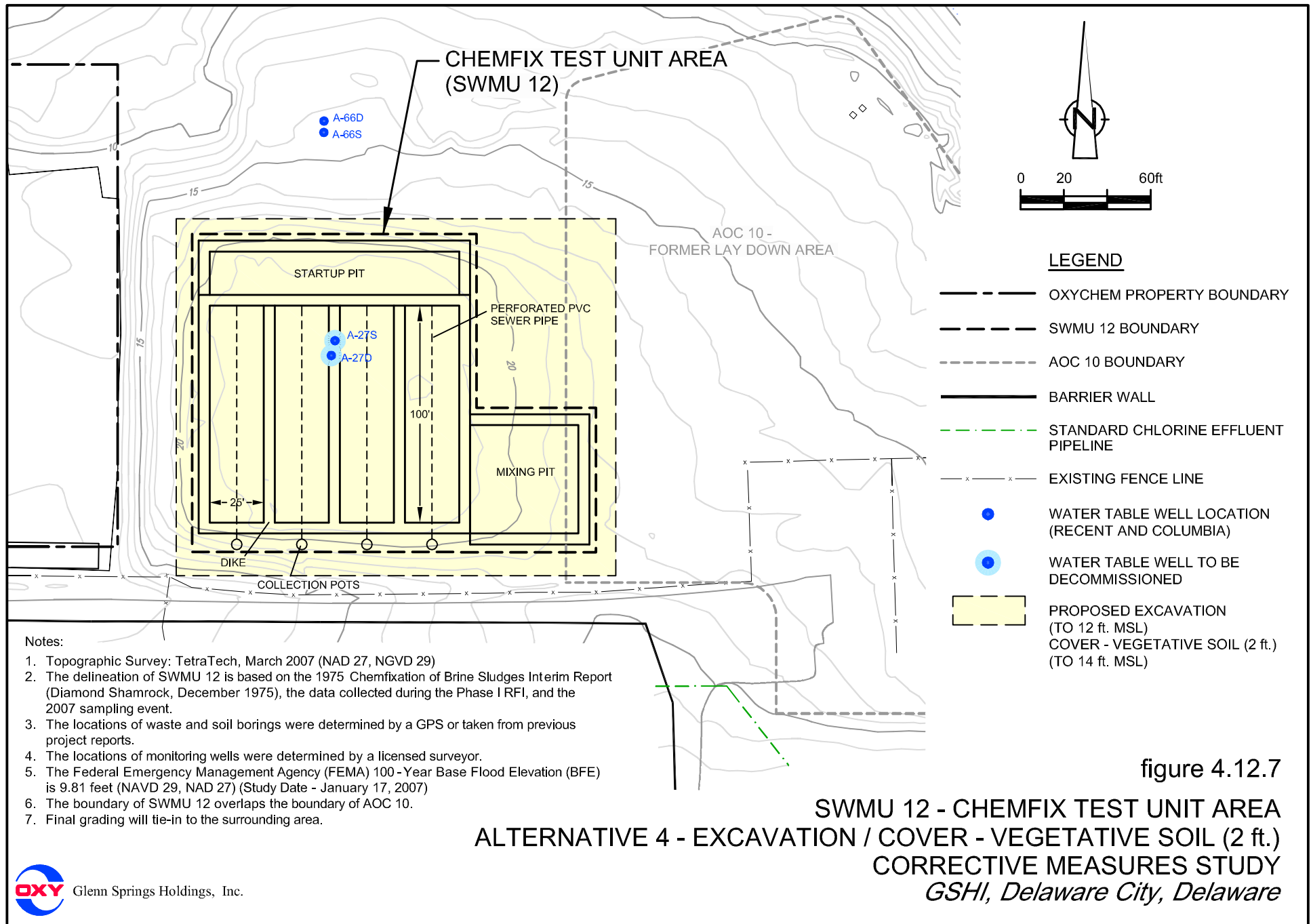


figure 4.12.5  
SWMU 12 – CHEMFIX TEST UNIT AREA  
CROSS-SECTION  
CORRECTIVE MEASURES STUDY  
GSHI, Delaware City, Delaware





## TABLES

TABLE 4.12.1  
 SWMU 12 - CHEM FIX TEST UNIT AREA  
 SUMMARY OF DOCUMENTATION  
 GLENN SPRINGS HOLDINGS, INC.  
 DELAWARE CITY, DELAWARE

"Chemfixation of Brine Sludges Interim Report", Diamond Shamrock Chemical Company, December, 1975.
"Phase II RCRA Facility Assessment of Solid Waste Management Units at Diamond Shamrock Chemical Company", A.T. Kearney, September 1986.
"Description of Current Conditions Report", ERM, August 1991.
"Final Phase I RCRA Facility Investigation Report", ERM, revised December 4, 1996.
"Phase II RCRA Facility Investigation (RFI) Work Plan", ERM, July 1998.
"Phase II RFI", CRA, December 2000.
"Delaware City-2005 Well Installation Program", CRA Memo 42, November 2005.
"Summary of Site Conditions Report", CRA Report 43, March 2006.
"2006 Annual Performance Monitoring Program (PMP) Report", GSHI, March 2007.
"Additional Sampling Work Plan", CRA Report 50, March 2007.
"Draft Human Health Risk Assessment Report", CRA Report 49, April 2007.
"Additional Data Collection Report", CRA Report 51, January 2008.

TABLE 4.12.2  
SWMU 12 - CHEMFIX TEST UNIT AREA  
RELEVANT SAMPLE LOCATIONS  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY, DELAWARE

<i>loc_desc</i>	<i>AOC</i>	<i>loc_name</i>	<i>sample_type_code</i>	<i>start_depth</i>	<i>end_depth</i>	<i>sample_matrix</i>	<i>sample_date</i>	<i>SOIL-1</i>	<i>SOIL-2</i>
Chemfix Test Unit Area (SWMU 12)	SWMU12	SB-03	N	4	6	SOIL	10/21/1993	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	SB-03	N	8	10	SOIL	10/21/1993	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	SB-03	N	10	12	SOIL	10/21/1993	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	SB-03	N	15	17	SOIL	10/21/1993	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	CFTA-1	N	0	2	SOIL	6/15/2007	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	CFTA-2	FD	0	2	SOIL	6/15/2007	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	CFTA-2	N	0	2	SOIL	6/15/2007	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	WB-14-1993	N	2	4	WASTE	9/22/1993	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	WB-14A-1993	N	2	4	WASTE	9/22/1993	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	CFTA-1	N	8	10	WASTE	6/15/2007	yes	yes
Chemfix Test Unit Area (SWMU 12)	SWMU12	CFTA-2	N	8	10	WASTE	6/15/2007	yes	yes

Notes:

1. EPA Screening Criteria (SOIL-1, SOIL-2) are discussed in Section 1 of the CMS Report.
2. N = Normal
3. FD = Field Duplicate.

**TABLE 4.12.3**  
**SWMU 12 – CHEMFIX TEST UNIT AREA**  
**THRESHOLD SCREENING**  
**FINAL REMEDY PERFORMANCE STANDARDS**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY, DELAWARE**

<b>Corrective Action Alternative</b>	<b>Protect Human Health and the Environment</b>	<b>Achieve Media Cleanup Objectives</b>	<b>Remediate Sources of Releases</b>	<b>Retained For Detailed Evaluation</b>
<b>1- No Action</b>	<b>Met-Exposure Pathways controlled by existing cover</b>	<b>Met- Human Health CAOs would be met by existing conditions</b>	<b>Met-Potential source releases controlled</b>	<b>Yes</b>
<b>2-ICs</b>	<b>Met-Exposure Pathways controlled by existing cover, fencing and ICs</b>	<b>Met- Human Health CAOs would be met by existing conditions and the application of ICs</b>	<b>Met-Potential source releases controlled</b>	<b>Yes</b>
<b>3- Cover-Vegetative Soil (2 ft.)</b>	<b>Met-Exposure Pathways controlled by placement of additional soil cover and ICs</b>	<b>Met- Human Health CAOs would be met by a combination of containment measures and ICs.</b>	<b>Met-Potential source releases controlled</b>	<b>Yes</b>
<b>4, 4a, 4b - Excavation/ Cover-Vegetative Soil (2 ft.)</b>	<b>Met- Exposure Pathways eliminated by removal of waste materials</b>	<b>Met- Human Health CAOs would be met by removal of waste materials. No ICs would be required for the remaining soil.</b>	<b>Met- Source removed</b>	<b>Yes</b>

**TABLE 4.12.4**  
**SWMU 12 – CHEMFIX TEST UNIT AREA**  
**THRESHOLD SCREENING**  
**PATHWAY EVALUATION**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY, DELAWARE**

<b>Corrective Action Alternative</b>	<b>Direct Contact</b>	<b>Ambient Air</b>	<b>Indoor Air</b>	<b>Retained</b>
<b>1- No Action</b>	<b>Met- Existing Soil Cover</b>	<b>Met-</b>	<b>Met-</b>	<b>Yes</b>
<b>2-ICs</b>	<b>Met- Existing Soil Cover and Fencing</b>	<b>Met- ICs</b>	<b>Met- ICs</b>	<b>Yes</b>
<b>2- Cover-Vegetative Soil (2 ft.)</b>	<b>Met- Additional Soil Cover</b>	<b>Met- ICs</b>	<b>Met- ICs</b>	<b>Yes</b>
<b>4- Excavation / Cover- Vegetative Soil (2 ft.)</b>	<b>Met- Removal</b>	<b>Met- Removal</b>	<b>Met- Removal</b>	<b>Yes</b>

**TABLE 4.12.5**  
**SWMU 12 – CHEMFIX TEST UNIT AREA**  
**DETAILED EVALUATION**  
**RANKING CRITERIA**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY, DELAWARE**

Balancing Criteria	General Evaluation Parameters	Rank Rationale		
		High	Moderate	Low
Long-Term Reliability and Effectiveness	1) Reliability and effectiveness 2) Life expectancy of the corrective measure 3) Operation and maintenance requirements	Corrective measure scores high for all three parameters.	Corrective measure scores high for two parameters.	Corrective measure scores high for one parameter.
Reduction in Toxicity, Mobility and/or Volume	Degree and permanence in reduction of: 1) Toxicity 2) Mobility and 3) Volume	Corrective measure achieves reduction in all three parameters.	Corrective measure achieves reduction in one or two parameters.	Corrective measure achieves reduction in none of the parameters.
Short-Term Effectiveness	1) Exposure 2) Volatilization 3) Cross-media contamination 4) Health & Safety issues 5) Traffic 6) Noise	Corrective measure has short-term impacts for one to two parameters.	Corrective measure has short-term impacts for three to four parameters.	Corrective measure has short-term impacts for five to six parameters.
Implementability	1) Constructability 2) Availability of technology, equipment and specialists 3) Time required to comply with CAOs 4) Required confirmatory sampling 5) Need for major approvals and permits 6) Required institutional controls	Corrective measure scores high for five to six parameters.	Corrective measure scores high for three to four parameters.	Corrective measure scores high for one to two parameters.
Short-Term Effectiveness	1) Exposure 2) Volatilization 3) Cross-media contamination 4) Health & Safety issues 5) Traffic 6) Noise	Corrective measure has short-term impacts for one to two parameters.	Corrective measure has short-term impacts for three to four parameters.	Corrective measure has short-term impacts for five to six parameters.
Cost	1) Capital Costs 2) O&M Costs 3) Present Value	Actual estimated costs considered in evaluation		

**TABLE 4.12.6**  
**SWMU 12 - CHEMFIX TEST UNIT AREA**  
**DETAILED EVALUATION**  
**BALANCING CRITERIA**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY, DELAWARE**

Corrective Action Alternative	Long-Term Reliability & Effectiveness	Reduction of Toxicity, Mobility & Volume	Short-Term Effectiveness	Implementability	Cost
1-No Action	<u>Moderate</u> Reliable and Effective-Indefinite lifetime expectancy dependent on maintenance of existing cover integrity.	<u>Low</u> Corrective measures do not change the toxicity, mobility or volume of the waste materials.	<u>High</u> Corrective Measures do not cause any short-term impacts.	<u>High</u> Fully Implementable	<ul style="list-style-type: none"> <li><i>Present Value: \$22,000</i></li> </ul>
2-ICs	<u>Moderate</u> Reliable and Effective-Indefinite lifetime expectancy dependent on ICs, perimeter fencing and maintenance of existing cover integrity.	<u>Low</u> Corrective measures do not change the toxicity, mobility or volume of the waste materials.	<u>High</u> Corrective Measures do not cause any short-term impacts	<u>High</u> Fully Implementable.	<ul style="list-style-type: none"> <li><i>Present Value: \$45,000</i></li> </ul>

**TABLE 4.12.6**  
**SWMU 12 - CHEMFIX TEST UNIT AREA**  
**DETAILED EVALUATION**  
**BALANCING CRITERIA**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY, DELAWARE**

Corrective Action Alternative	Long-Term Reliability & Effectiveness	Reduction of Toxicity, Mobility & Volume	Short-Term Effectiveness	Implementability	Cost
3-Cover Vegetative Soil (2ft.)	<u>Moderate</u> Reliable and Effective-Indefinite lifetime expectancy dependent on maintenance of cover integrity.	<u>Moderate</u> Reduces Mobility- Soil cover reduces potential for mobility of COCs in the waste materials if the integrity of cover is maintained. (potential exposure at surface of direct contact)	<u>High</u> Corrective Measures do not cause any short-term impacts	<u>High</u> Fully Implementable - Requires standard construction technology and equipment.	<ul style="list-style-type: none"> <li><i>Present Value: \$109,000</i></li> </ul>
4, 4a, 4b-Excavation / Cover- Vegetative Soil (2 ft.)	<u>High</u> Reliable and Effective- Waste materials are removed and disposed at a permitted disposal facility. Restores this area of the Site. No ICs are required for the remaining soil.	<u>High</u> Completely removes the waste materials from SWMU 12.	<u>Low</u> Temporary increased exposure and potential for migration during excavation. Truck traffic for waste disposal transport. If offsite disposal, then potential for increased exposure.	<u>Moderate</u> Fully Implementable- Requires standard construction technology and equipment. Waste material excavation, staging and transport required.	<ul style="list-style-type: none"> <li><i>Present Value: \$1.4 to 9.4 million.</i></li> <li><i>4 - \$9,370,000 (Offsite Disposal as Hazardous)</i></li> <li><i>4a - \$2,256,000 (Offsite Disposal as Nonhazardous)</i></li> <li><i>4b - \$1,408,000 (Onsite Disposal as Hazardous)</i></li> </ul>

**TABLE 4.12.7**  
**SWMU 12-CHEMFIX TEST UNIT AREA**  
**DETAILED EVALUATION**  
**NUMERICAL RANKING OF ALTERNATIVES**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY, DE**

<i>Corrective Action Alternative</i>	<i>Score</i>	<i>Long-Term Reliability &amp; Effectiveness</i>	<i>Reduction of Toxicity, Mobility &amp; Volume</i>	<i>Short-Term Effectiveness</i>	<i>Implementability</i>	<i>Cost- Present Value</i>
Rank Weight		2	1	1	1	
1-No Action	10	3	1	3	3	\$22,000
2-Institutional Controls (ICs)	11	4	1	3	3	\$45,000
3-Cover-Vegetative Soil (2 feet)	11	4	2	3	2	\$109,000
4-Excavation/Cover- Vegetative Soil (2 feet)	11	6	3	1	1	1.4 Mil to 9.4 Mil

## APPENDIX A

### SCREENING RESULTS: SOIL & WASTE & OTHER ANALYTICAL RESULTS

**ANALYTICAL RESULTS SUMMARY**  
**SOIL SAMPLING**  
**ALL DATA SCREENED TO SOIL-1**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY**

<b>Sample Location:</b>	<b>CFTA-1</b>	<b>CFTA-2</b>	<b>CFTA-2</b>	<b>SB-03</b>	<b>SB-03</b>
<b>Sample ID:</b>	SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
<b>Sample Date:</b>	6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
<b>Sample Depth:</b>	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(4-6) ft bgs	(8-10) ft bgs

<i>Parameters</i>	<i>Units</i>	<i>SOIL-1</i>					
<b>Volatile Organic Compounds</b>							
1,1,1-Trichloroethane	mg/kg	286160	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,1,2,2-Tetrachloroethane	mg/kg	14.3	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,1,2-Trichloroethane	mg/kg	50.2	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,1-Dichloroethane	mg/kg	204400	0.012 UL	0.01 UL	0.008 UL	0.0057 U	0.029 U
1,1-Dichloroethene	mg/kg	51100	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,2,4-Trichlorobenzene	mg/kg	10220	0.012 U	0.01 U	0.008 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	2.04	0.012 U	0.01 U	0.008 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	1.431	0.012 U	0.01 U	0.008 U	-	-
1,2-Dichlorobenzene	mg/kg	91980	0.012 U	0.01 U	0.008 U	-	-
1,2-Dichloroethane	mg/kg	31.4	0.012 U	0.01 U	0.008 U	0.0098	0.47
1,2-Dichloroethene (total)	mg/kg	9198	-	-	-	0.0057 U	0.013 J
1,2-Dichloropropane	mg/kg	42.1	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,3-Dichlorobenzene	mg/kg	3066	0.012 U	0.01 U	0.008 U	-	-
1,4-Dichlorobenzene	mg/kg	119	0.012 U	0.01 U	0.008 U	-	-
2-Butanone (Methyl Ethyl Ketone)	mg/kg	613200	0.012 U	0.01 U	0.008 U	-	-
2-Hexanone	mg/kg	-	0.012 U	0.01 U	0.008 U	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	-	0.012 U	0.01 U	0.008 U	-	-
Acetone	mg/kg	919800	0.021 J	0.051 J	0.038 J	-	-
Benzene	mg/kg	52.03	0.012 U	0.01 U	0.008 U	0.0046 J	0.035
Bromodichloromethane	mg/kg	46.15	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Bromoform	mg/kg	362	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Bromomethane (Methyl Bromide)	mg/kg	1430.8	0.012 U	0.01 U	0.008 U	0.011 U	0.058 U
Carbon disulfide	mg/kg	102200	0.012 UL	0.01 UL	0.008 UL	-	-
Carbon tetrachloride	mg/kg	22.0	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Chlorobenzene	mg/kg	20440	0.012 U	0.01 U	0.008 U	0.0054 J	0.037
Chloroethane	mg/kg	987	0.012 U	0.01 U	0.008 U	0.011 U	0.058 U
Chloroform (Trichloromethane)	mg/kg	10220	0.012 U	0.01 U	0.008 U	0.0057 U	0.017 J
Chloromethane (Methyl Chloride)	mg/kg	-	0.012 UJ	0.01 UJ	0.008 UJ	0.011 UJ	0.058 U
cis-1,2-Dichloroethene	mg/kg	10220	0.012 U	0.01 U	0.008 U	-	-
cis-1,3-Dichloropropene	mg/kg	-	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Cyclohexane	mg/kg	-	0.012 U	0.01 U	0.008 U	-	-
Dibromochloromethane	mg/kg	34.1	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Dichlorodifluoromethane (CFC-12)	mg/kg	204400	0.012 UJ	0.01 UJ	0.008 UJ	-	-
Ethylbenzene	mg/kg	102200	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Isopropylbenzene	mg/kg	102200	0.012 U	0.01 U	0.008 U	-	-
Methyl acetate	mg/kg	1022000	0.012 UJ	0.01 UJ	0.008 UJ	-	-
Methyl cyclohexane	mg/kg	-	0.012 U	0.01 U	0.008 U	-	-

**ANALYTICAL RESULTS SUMMARY**  
**SOIL SAMPLING**  
**ALL DATA SCREENED TO SOIL-1**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY**

<i>Sample Location:</i>			<i>CFTA-1</i>	<i>CFTA-2</i>	<i>CFTA-2</i>	<i>SB-03</i>	<i>SB-03</i>
<i>Sample ID:</i>			<i>SO-7462-061507-EAP-018</i>	<i>SO-7462-061507-EAP-014</i>	<i>SO-7462-061507-EAP-015</i>	<i>7462-102193-SB-03 (4-6)</i>	<i>7462-102193-SB-03 (8-10)</i>
<i>Sample Date:</i>			<i>6/15/2007</i>	<i>6/15/2007</i>	<i>6/15/2007</i>	<i>10/21/1993</i>	<i>10/21/1993</i>
<i>Sample Depth:</i>			<i>(0-2) ft BGS</i>	<i>(0-2) ft BGS</i>	<i>(0-2) ft BGS</i>	<i>(4-6) ft bgs</i>	<i>(8-10) ft bgs</i>
			<i>(Duplicate)</i>				
<i>Parameters</i>	<i>Units</i>	<i>SOIL-1</i>					
Methyl Tert Butyl Ether	mg/kg	715	0.012 UL	0.01 UL	0.008 UL	-	-
Methylene chloride	mg/kg	382	0.007 B	0.004 B	0.004 B	0.0057 U	0.029 U
Styrene	mg/kg	204400	0.012 U	0.01 U	0.008 U	-	-
Tetrachloroethene	mg/kg	5.30	0.012 U	0.01 U	0.008 U	0.0057 U	0.013 J
Toluene	mg/kg	81760	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
trans-1,2-Dichloroethene	mg/kg	20440	0.012 U	0.01 U	0.008 U	-	-
trans-1,3-Dichloropropene	mg/kg	-	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Trichloroethene	mg/kg	7.15	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Trichlorofluoromethane (CFC-11)	mg/kg	306600	0.012 U	0.01 U	0.008 U	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	30660000	0.012 U	0.01 U	0.008 U	-	-
Vinyl chloride	mg/kg	3.97	0.012 U	0.01 U	0.008 U	0.011 U	0.94
Vinyl chloride	mg/kg	3.97	0.012 U	0.01 U	0.008 U	0.011 U	0.94
Xylene (total)	mg/kg	204400	0.012 U	0.01 U	0.008 U	-	-
<i>Volatile Organic Compounds - SPLP</i>							
1,1,1-Trichloroethane	ug/L		2 U	2 U	2 U	-	-
1,1,2,2-Tetrachloroethane	ug/L		2 U	2 U	2 U	-	-
1,1,2-Trichloroethane	ug/L		2 U	2 U	2 U	-	-
1,1-Dichloroethane	ug/L		2 U	2 U	2 U	-	-
1,1-Dichloroethene	ug/L		2 U	2 U	2 U	-	-
1,2,4-Trichlorobenzene	ug/L		2 U	2 U	2 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L		2 U	2 U	2 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	ug/L		2 U	2 U	2 U	-	-
1,2-Dichlorobenzene	ug/L		2 U	2 U	2 U	-	-
1,2-Dichloroethane	ug/L		2 U	2 U	2 U	-	-
1,2-Dichloropropane	ug/L		2 U	2 U	2 U	-	-
1,3-Dichlorobenzene	ug/L		2 U	2 U	2 U	-	-
1,4-Dichlorobenzene	ug/L		2 U	2 U	2 U	-	-
2-Butanone (Methyl Ethyl Ketone)	ug/L		5 U	5 U	5 U	-	-
2-Hexanone	ug/L		5 U	5 U	5 U	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ug/L		5 U	5 U	5 U	-	-
Acetone	ug/L		3 B	3 B	3 B	-	-
Benzene	ug/L		0.7 U	0.7 U	0.7 U	-	-
Bromodichloromethane	ug/L		2 U	2 U	2 U	-	-
Bromoform	ug/L		2 U	2 U	2 U	-	-
Bromomethane (Methyl Bromide)	ug/L		2 U	2 U	2 U	-	-
Carbon disulfide	ug/L		2 U	2 U	2 U	-	-
Carbon tetrachloride	ug/L		2 U	2 U	2 U	-	-
Chlorobenzene	ug/L		2 U	2 U	2 U	-	-

**ANALYTICAL RESULTS SUMMARY**  
**SOIL SAMPLING**  
**ALL DATA SCREENED TO SOIL-1**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY**

<i>Sample Location:</i>			CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
<i>Sample ID:</i>			SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
<i>Sample Date:</i>			6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
<i>Sample Depth:</i>			(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(4-6) ft bgs	(8-10) ft bgs
			(Duplicate)				
<i>Parameters</i>	<i>Units</i>	<i>SOIL-1</i>					
Chloroethane	ug/L		2 U	2 U	2 U	-	-
Chloroform (Trichloromethane)	ug/L		2 U	2 U	2 U	-	-
Chloromethane (Methyl Chloride)	ug/L		2 U	2 U	2 U	-	-
cis-1,2-Dichloroethene	ug/L		2 U	2 U	2 U	-	-
cis-1,3-Dichloropropene	ug/L		2 U	2 U	2 U	-	-
Cyclohexane	ug/L		2 U	2 U	2 U	-	-
Dibromochloromethane	ug/L		2 U	2 U	2 U	-	-
Dichlorodifluoromethane (CFC-12)	ug/L		2 U	2 U	2 U	-	-
Ethylbenzene	ug/L		2 U	2 U	2 U	-	-
Isopropylbenzene	ug/L		2 U	2 U	2 U	-	-
Methyl acetate	ug/L		2 U	2 U	2 U	-	-
Methyl cyclohexane	ug/L		2 U	2 U	2 U	-	-
Methyl Tert Butyl Ether	ug/L		2	2.3	3.4	-	-
Methylene chloride	ug/L		58 B	49 JB	780 J	-	-
Styrene	ug/L		2 U	2 U	2 U	-	-
Tetrachloroethene	ug/L		2 U	2 U	2 U	-	-
Toluene	ug/L		2 U	2 U	2 U	-	-
trans-1,2-Dichloroethene	ug/L		2 U	2 U	2 U	-	-
trans-1,3-Dichloropropene	ug/L		2 U	2 U	2 U	-	-
Trichloroethene	ug/L		2 U	2 U	2 U	-	-
Trichlorofluoromethane (CFC-11)	ug/L		2 U	2 U	2 U	-	-
Trifluorotrichloroethane (Freon 113)	ug/L		2 U	2 U	2 U	-	-
Vinyl chloride	ug/L		2 U	2 U	2 U	-	-
Xylene (total)	ug/L		2 U	2 U	2 U	-	-
<i>Semi-volatile Organic Compounds</i>							
1,2,4-Trichlorobenzene	mg/kg	10220	-	-	-	0.38 UR	0.38 UR
1,2-Dichlorobenzene	mg/kg	91980	-	-	-	0.38 UR	0.38 UR
1,2-Diphenylhydrazine	mg/kg	3.58	-	-	-	0.38 UJ	0.38 UJ
1,3-Dichlorobenzene	mg/kg	3066	-	-	-	0.38 UR	0.38 UR
1,4-Dichlorobenzene	mg/kg	119	-	-	-	0.38 UR	0.38 UR
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ethe	mg/kg	40.88	-	-	-	0.38 U	0.38 U
2,4,5-Trichlorophenol	mg/kg	102200	-	-	-	0.38 UP	0.38 UP
2,4,6-Trichlorophenol	mg/kg	260	-	-	-	0.38 U	0.38 U
2,4-Dichlorophenol	mg/kg	3066	-	-	-	0.38 U	0.38 U
2,4-Dimethylphenol	mg/kg	20440	-	-	-	0.38 U	0.38 U
2,4-Dinitrophenol	mg/kg	2044	-	-	-	1.9 U	1.9 U
2,4-Dinitrotoluene	mg/kg	2044	-	-	-	0.38 U	0.38 U
2,6-Dinitrotoluene	mg/kg	1022	-	-	-	0.38 U	0.38 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>			CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
<i>Sample ID:</i>			SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
<i>Sample Date:</i>			6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
<i>Sample Depth:</i>			(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs
<i>Parameters</i>	<i>Units</i>	<i>SOIL-1</i>					
2-Chloroethyl vinyl ether	mg/kg	-	-	-	-	0.011 U	0.058 U
2-Chloronaphthalene	mg/kg	81760	-	-	-	0.38 U	0.38 U
2-Chlorophenol	mg/kg	5110	-	-	-	0.38 U	0.38 U
2-Methylnaphthalene	mg/kg	4088	-	-	-	0.38 UP	0.38 UP
2-Methylphenol	mg/kg	51100	-	-	-	0.38 UP	0.38 UP
2-Nitroaniline	mg/kg	3066	-	-	-	1.9 UP	1.9 UP
2-Nitrophenol	mg/kg	-	-	-	-	0.38 U	0.38 U
3,3'-Dichlorobenzidine	mg/kg	6.36	-	-	-	0.76 UR	0.76 UR
3-Nitroaniline	mg/kg	143	-	-	-	1.9 UP	1.9 UP
4,6-Dinitro-2-methylphenol	mg/kg	102	-	-	-	1.9 UJ	1.9 UJ
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	0.38 U	0.38 U
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	0.38 U	0.38 U
4-Chloroaniline	mg/kg	4088	-	-	-	0.38 UP	0.38 UP
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	0.38 U	0.38 U
4-Methylphenol	mg/kg	5110	-	-	-	0.38 UP	0.38 UP
4-Nitroaniline	mg/kg	143	-	-	-	1.9 UP	1.9 UP
4-Nitrophenol	mg/kg	-	-	-	-	1.9 U	1.9 U
Acenaphthene	mg/kg	61320	-	-	-	0.38 U	0.38 U
Acenaphthylene	mg/kg	-	-	-	-	0.38 U	0.38 U
Acrolein	mg/kg	511	-	-	-	0.057 UR	0.29 UR
Acrylonitrile	mg/kg	5.3	-	-	-	0.057 U	0.29 U
Anthracene	mg/kg	306600	-	-	-	0.38 UJ	0.38 UJ
Benzidine	mg/kg	0.0124	-	-	-	1.9 UJ	1.9 UJ
Benzo(a)anthracene	mg/kg	3.92	-	-	-	0.38 U	0.38 U
Benzo(a)pyrene	mg/kg	0.392	-	-	-	0.38 U	0.38 U
Benzo(b)fluoranthene	mg/kg	3.92	-	-	-	0.38 U	0.38 U
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	0.38 U	0.38 U
Benzo(k)fluoranthene	mg/kg	39.2	-	-	-	0.38 U	0.38 U
Benzoic acid	mg/kg	4088000	-	-	-	1.9 UP	1.9 UP
Benzyl Alcohol	mg/kg	511000	-	-	-	0.38 UP	0.38 UP
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	0.38 U	0.38 U
bis(2-Chloroethyl)ether	mg/kg	2.6	-	-	-	0.38 U	0.38 U
bis(2-Ethylhexyl)phthalate	mg/kg	204.4	-	-	-	0.38 U	0.38 U
Butyl benzylphthalate	mg/kg	204400	-	-	-	0.38 UJ	0.38 UJ
Chrysene	mg/kg	392	-	-	-	0.38 U	0.38 U
Dibenz(a,h)anthracene	mg/kg	0.392	-	-	-	0.38 U	0.38 U
Dibenzofuran	mg/kg	2044	-	-	-	0.38 U	0.38 U
Diethyl phthalate	mg/kg	817600	-	-	-	0.38 U	0.38 U
Dimethyl phthalate	mg/kg	10220000	-	-	-	0.38 U	0.38 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs

Parameters	Units	SOIL-1					
Di-n-butylphthalate	mg/kg	102200	-	-	-	0.38 U	0.38 U
Di-n-octyl phthalate	mg/kg	40880	-	-	-	0.38 U	0.38 U
Fluoranthene	mg/kg	40880	-	-	-	0.38 U	0.38 U
Fluorene	mg/kg	40880	-	-	-	0.38 U	0.38 U
Hexachlorobenzene	mg/kg	1.79	-	-	-	0.38 U	0.38 U
Hexachlorobutadiene	mg/kg	36.7	-	-	-	0.38 UR	0.38 UR
Hexachlorocyclopentadiene	mg/kg	6132	-	-	-	0.38 U	0.38 U
Hexachloroethane	mg/kg	204	-	-	-	0.38 UR	0.38 UR
Indeno(1,2,3-cd)pyrene	mg/kg	3.92	-	-	-	0.38 U	0.38 U
Isophorone	mg/kg	3012	-	-	-	0.38 UR	0.38 UR
Naphthalene	mg/kg	20440	-	-	-	0.38 U	0.38 U
Nitrobenzene	mg/kg	511	-	-	-	0.38 UR	0.38 UR
N-Nitrosodimethylamine	mg/kg	0.0561	-	-	-	0.38 U	0.38 U
N-Nitrosodi-n-propylamine	mg/kg	0.409	-	-	-	0.38 UR	0.38 UR
N-Nitrosodiphenylamine	mg/kg	584	-	-	-	0.38 UJ	0.38 UJ
Pentachlorophenol	mg/kg	23.8	-	-	-	1.9 U	1.9 U
Phenanthrene	mg/kg	-	-	-	-	0.38 UJ	0.38 UJ
Phenol	mg/kg	306600	-	-	-	0.38 U	0.38 U
Pyrene	mg/kg	30660	-	-	-	0.38 U	0.38 U
trans-1,2-Dichloroethene	mg/kg	20440	-	-	-	0.0057 UP	0.013 JP
Trichlorofluoromethane (CFC-11)	mg/kg	306600	-	-	-	0.0057 U	0.029 U

**Metals**

Aluminum	mg/kg	1022000	10500	10600	9930	-	-
Antimony	mg/kg	408.8	0.75 BL	0.72 BL	0.87 BL	4.6 U	4.6 U
Arsenic	mg/kg	11	3.0	4.1	3.1	2.9	1.2 U
Barium	mg/kg	204400	59.8	59.4	58.2	81	51
Beryllium	mg/kg	2044	0.61	0.68	0.65	0.58	0.64
Cadmium	mg/kg	-	0.38 J	0.48 J	0.26 J	0.96	1.2
Calcium	mg/kg	-	708	391 J	365 J	-	-
Chromium Total	mg/kg	-	13.6	16.1	14.3	19	16
Cobalt	mg/kg	20440	5.1 J	6.4 J	6.3	-	-
Copper	mg/kg	40880	6.5 J	6.1 J	5.3 J	14	12 U
Iron	mg/kg	306600	12300	14800	13400	14000	21000
Lead	mg/kg	800	19.5	11.6	12.5	20	22
Magnesium	mg/kg	-	1030	1100	1020	-	-
Manganese	mg/kg	20440	200	228	245	310	1600
Mercury	mg/kg	6.5	0.81	0.54	0.45	0.74	0.11 U
Nickel	mg/kg	20440	8.2 J	8.7 J	8.9 J	11	17

**ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY**

*Sample Location:*

*Sample ID:*

*Sample Date:*

*Sample Depth:*

	CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
	SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
	6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
	(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs

Parameters	Units	SOIL-1					
Potassium	mg/kg	-	502 J	538 J	475 J	-	-
Selenium	mg/kg	5110	0.36 U	0.65 J	0.35 J	0.57 UJ	0.58 UJ
Silver	mg/kg	5110	0.060 U	0.068 U	0.057 U	1.1 U	1.2 U
Sodium	mg/kg	-	23.6 B	21.1 B	17.8 B	530	700
Thallium	mg/kg	71.5	0.97 B	1.5 B	1.4 B	1.1 UJ	1.2 U
Vanadium	mg/kg	1022	25.6	27.5	25.6	-	-
Zinc	mg/kg	306600	35.2	28.2	30.2	88	41

**Metals - SPLP**

Aluminum	ug/L		2460	4310 J	1790 J	-	-
Antimony	ug/L		2.4 B	2.7 B	1.6 B	-	-
Arsenic	ug/L		2.0 U	2.0 U	2.0 U	-	-
Barium	ug/L		472 L	324 L	330 L	-	-
Beryllium	ug/L		0.13 B	1.4 B	0.49 B	-	-
Cadmium	ug/L		0.30 B	1.2 B	0.81 B	-	-
Calcium	ug/L		1080 J	2070 J	14500 J	-	-
Chromium Total	ug/L		3.6 B	7.1 J	3.1 B	-	-
Cobalt	ug/L		1.0 B	2.7 B	1.1 B	-	-
Copper	ug/L		4.3 B	4.7 J	5.5 J	-	-
Iron	ug/L		1860	4350 J	1650 J	-	-
Lead	ug/L		1.1 U	4.7	1.1 U	-	-
Magnesium	ug/L		243 J	458 J	294 J	-	-
Manganese	ug/L		17.1 J	37.1 J	15.6 J	-	-
Mercury	ug/L		0.10 UL	0.10 UL	0.10 UL	-	-
Nickel	ug/L		3.0 B	5.1 B	3.0 B	-	-
Potassium	ug/L		454 J	1100 J	3170 J	-	-
Selenium	ug/L		3.0 U	3.2 J	3.0 U	-	-
Silver	ug/L		25.7 U	25.7 U	25.7 U	-	-
Sodium	ug/L		6030 J	7420 J	18500 J	-	-
Thallium	ug/L		2.2 U	2.2 U	2.2 U	-	-
Vanadium	ug/L		4.7 J	10.3 J	4.1 J	-	-
Zinc	ug/L		85.3	75.4	52.6 B	-	-

**General Chemistry**

Percent Moisture	%	-	14.8	25.0	10.8	-	-
Percent Moisture	%v/v	-	-	-	-	13	14
pH (water)	pH units	-	-	-	-	8.2 J	8.0 J
Phenolics (Total)	mg/kg	-	-	-	-	30 U	30 U
Total Organic Carbon (TOC)	mg/kg	-	-	-	-	4600	1300

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

Parameters	Units		
<b>Volatile Organic Compounds</b>			
1,1,1-Trichloroethane	mg/kg	0.0054 U	0.0054 U
1,1,2,2-Tetrachloroethane	mg/kg	0.0054 U	0.0054 U
1,1,2-Trichloroethane	mg/kg	0.0054 U	0.0054 U
1,1-Dichloroethane	mg/kg	0.0054 U	0.0054 U
1,1-Dichloroethene	mg/kg	0.0054 U	0.0054 U
1,2,4-Trichlorobenzene	mg/kg	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	-	-
1,2-Dichlorobenzene	mg/kg	-	-
1,2-Dichloroethane	mg/kg	0.011	0.0054 U
1,2-Dichloroethene (total)	mg/kg	0.0054 U	0.0054 U
1,2-Dichloropropane	mg/kg	0.0054 U	0.0054 U
1,3-Dichlorobenzene	mg/kg	-	-
1,4-Dichlorobenzene	mg/kg	-	-
2-Butanone (Methyl Ethyl Ketone)	mg/kg	-	-
2-Hexanone	mg/kg	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	-	-
Acetone	mg/kg	-	-
Benzene	mg/kg	0.0028 J	0.0054 U
Bromodichloromethane	mg/kg	0.0054 U	0.0054 U
Bromoform	mg/kg	0.0054 U	0.0054 U
Bromomethane (Methyl Bromide)	mg/kg	0.011 U	0.011 U
Carbon disulfide	mg/kg	-	-
Carbon tetrachloride	mg/kg	0.0054 U	0.0054 U
Chlorobenzene	mg/kg	0.0033 J	0.0054 U
Chloroethane	mg/kg	0.011 U	0.011 U
Chloroform (Trichloromethane)	mg/kg	0.0054 U	0.0054 U
Chloromethane (Methyl Chloride)	mg/kg	0.011 U	0.011 U
cis-1,2-Dichloroethene	mg/kg	-	-
cis-1,3-Dichloropropene	mg/kg	0.0054 U	0.0054 U
Cyclohexane	mg/kg	-	-
Dibromochloromethane	mg/kg	0.0054 U	0.0054 U
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-
Ethylbenzene	mg/kg	0.0054 U	0.0054 U
Isopropylbenzene	mg/kg	-	-
Methyl acetate	mg/kg	-	-
Methyl cyclohexane	mg/kg	-	-

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	<b>SB-03</b>	<b>SB-03</b>
<i>Sample ID:</i>	<b>7462-102193-SB-03 (10-12)</b>	<b>7462-102193-SB-03 (15-17)</b>
<i>Sample Date:</i>	<b>10/21/1993</b>	<b>10/21/1993</b>
<i>Sample Depth:</i>	<b>(10-12) ft bgs</b>	<b>(15-17) ft bgs</b>

<i>Parameters</i>	<i>Units</i>		
Methyl Tert Butyl Ether	mg/kg	-	-
Methylene chloride	mg/kg	0.0054 U	0.0054 U
Styrene	mg/kg	-	-
Tetrachloroethene	mg/kg	0.0054 U	0.0054 U
Toluene	mg/kg	0.0054 U	0.0054 U
trans-1,2-Dichloroethene	mg/kg	-	-
trans-1,3-Dichloropropene	mg/kg	0.0054 U	0.0054 U
Trichloroethene	mg/kg	0.0054 U	0.0054 U
Trichlorofluoromethane (CFC-11)	mg/kg	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	-	-
Vinyl chloride	mg/kg	0.039	0.011 U
Vinyl chloride	mg/kg	0.039	0.011 U
Xylene (total)	mg/kg	-	-

<i>Volatile Organic Compounds - SPLP</i>			
1,1,1-Trichloroethane	ug/L	-	-
1,1,2,2-Tetrachloroethane	ug/L	-	-
1,1,2-Trichloroethane	ug/L	-	-
1,1-Dichloroethane	ug/L	-	-
1,1-Dichloroethene	ug/L	-	-
1,2,4-Trichlorobenzene	ug/L	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	-	-
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	-	-
1,2-Dichlorobenzene	ug/L	-	-
1,2-Dichloroethane	ug/L	-	-
1,2-Dichloropropane	ug/L	-	-
1,3-Dichlorobenzene	ug/L	-	-
1,4-Dichlorobenzene	ug/L	-	-
2-Butanone (Methyl Ethyl Ketone)	ug/L	-	-
2-Hexanone	ug/L	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ug/L	-	-
Acetone	ug/L	-	-
Benzene	ug/L	-	-
Bromodichloromethane	ug/L	-	-
Bromoform	ug/L	-	-
Bromomethane (Methyl Bromide)	ug/L	-	-
Carbon disulfide	ug/L	-	-
Carbon tetrachloride	ug/L	-	-
Chlorobenzene	ug/L	-	-

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

<i>Parameters</i>	<i>Units</i>		
Chloroethane	ug/L	-	-
Chloroform (Trichloromethane)	ug/L	-	-
Chloromethane (Methyl Chloride)	ug/L	-	-
cis-1,2-Dichloroethene	ug/L	-	-
cis-1,3-Dichloropropene	ug/L	-	-
Cyclohexane	ug/L	-	-
Dibromochloromethane	ug/L	-	-
Dichlorodifluoromethane (CFC-12)	ug/L	-	-
Ethylbenzene	ug/L	-	-
Isopropylbenzene	ug/L	-	-
Methyl acetate	ug/L	-	-
Methyl cyclohexane	ug/L	-	-
Methyl Tert Butyl Ether	ug/L	-	-
Methylene chloride	ug/L	-	-
Styrene	ug/L	-	-
Tetrachloroethene	ug/L	-	-
Toluene	ug/L	-	-
trans-1,2-Dichloroethene	ug/L	-	-
trans-1,3-Dichloropropene	ug/L	-	-
Trichloroethene	ug/L	-	-
Trichlorofluoromethane (CFC-11)	ug/L	-	-
Trifluorotrichloroethane (Freon 113)	ug/L	-	-
Vinyl chloride	ug/L	-	-
Xylene (total)	ug/L	-	-

*Semi-volatile Organic Compounds*

1,2,4-Trichlorobenzene	mg/kg	0.36 UR	0.35 UR
1,2-Dichlorobenzene	mg/kg	0.36 UR	0.35 UR
1,2-Diphenylhydrazine	mg/kg	0.36 UJ	0.35 UJ
1,3-Dichlorobenzene	mg/kg	0.36 UR	0.35 UR
1,4-Dichlorobenzene	mg/kg	0.36 UR	0.35 UR
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ethe	mg/kg	0.36 U	0.35 U
2,4,5-Trichlorophenol	mg/kg	0.36 UP	0.35 UP
2,4,6-Trichlorophenol	mg/kg	0.36 U	0.35 U
2,4-Dichlorophenol	mg/kg	0.36 U	0.35 U
2,4-Dimethylphenol	mg/kg	0.36 U	0.35 U
2,4-Dinitrophenol	mg/kg	1.8 U	1.8 U
2,4-Dinitrotoluene	mg/kg	0.36 U	0.35 U
2,6-Dinitrotoluene	mg/kg	0.36 U	0.35 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

<i>Parameters</i>	<i>Units</i>		
2-Chloroethyl vinyl ether	mg/kg	0.011 U	0.011 U
2-Chloronaphthalene	mg/kg	0.36 U	0.35 U
2-Chlorophenol	mg/kg	0.36 U	0.35 U
2-Methylnaphthalene	mg/kg	0.36 UP	0.35 UP
2-Methylphenol	mg/kg	0.36 UP	0.35 UP
2-Nitroaniline	mg/kg	1.8 UP	1.8 UP
2-Nitrophenol	mg/kg	0.36 U	0.35 U
3,3'-Dichlorobenzidine	mg/kg	0.72 UR	0.71 UR
3-Nitroaniline	mg/kg	1.8 UP	1.8 UP
4,6-Dinitro-2-methylphenol	mg/kg	1.8 UJ	1.8 UJ
4-Bromophenyl phenyl ether	mg/kg	0.36 U	0.35 U
4-Chloro-3-methylphenol	mg/kg	0.36 U	0.35 U
4-Chloroaniline	mg/kg	0.36 UP	0.35 UP
4-Chlorophenyl phenyl ether	mg/kg	0.36 U	0.35 U
4-Methylphenol	mg/kg	0.36 UP	0.35 UP
4-Nitroaniline	mg/kg	1.8 UP	1.8 UP
4-Nitrophenol	mg/kg	1.8 U	1.8 U
Acenaphthene	mg/kg	0.36 U	0.35 U
Acenaphthylene	mg/kg	0.36 U	0.35 U
Acrolein	mg/kg	0.054 UR	0.054 UR
Acrylonitrile	mg/kg	0.054 U	0.054 U
Anthracene	mg/kg	0.36 UJ	0.35 UJ
Benzidine	mg/kg	1.8 UJ	1.8 UJ
Benzo(a)anthracene	mg/kg	0.36 U	0.35 U
Benzo(a)pyrene	mg/kg	0.36 U	0.35 U
Benzo(b)fluoranthene	mg/kg	0.36 U	0.35 U
Benzo(g,h,i)perylene	mg/kg	0.36 U	0.35 U
Benzo(k)fluoranthene	mg/kg	0.36 U	0.35 U
Benzoic acid	mg/kg	1.8 UP	1.8 UP
Benzyl Alcohol	mg/kg	0.36 UP	0.35 UP
bis(2-Chloroethoxy)methane	mg/kg	0.36 U	0.35 U
bis(2-Chloroethyl)ether	mg/kg	0.36 U	0.35 U
bis(2-Ethylhexyl)phthalate	mg/kg	0.36 U	0.35 U
Butyl benzylphthalate	mg/kg	0.36 UJ	0.35 UJ
Chrysene	mg/kg	0.36 U	0.35 U
Dibenz(a,h)anthracene	mg/kg	0.36 U	0.35 U
Dibenzofuran	mg/kg	0.36 U	0.35 U
Diethyl phthalate	mg/kg	0.36 U	0.35 U
Dimethyl phthalate	mg/kg	0.36 U	0.35 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

<i>Parameters</i>	<i>Units</i>		
Di-n-butylphthalate	mg/kg	0.36 U	0.35 U
Di-n-octyl phthalate	mg/kg	0.36 U	0.35 U
Fluoranthene	mg/kg	0.36 U	0.35 U
Fluorene	mg/kg	0.36 U	0.35 U
Hexachlorobenzene	mg/kg	0.36 U	0.35 U
Hexachlorobutadiene	mg/kg	0.36 UR	0.35 UR
Hexachlorocyclopentadiene	mg/kg	0.36 U	0.35 U
Hexachloroethane	mg/kg	0.36 UR	0.35 UR
Indeno(1,2,3-cd)pyrene	mg/kg	0.36 U	0.35 U
Isophorone	mg/kg	0.36 UR	0.35 UR
Naphthalene	mg/kg	0.36 U	0.35 U
Nitrobenzene	mg/kg	0.36 UR	0.35 UR
N-Nitrosodimethylamine	mg/kg	0.36 U	0.35 U
N-Nitrosodi-n-propylamine	mg/kg	0.36 UR	0.35 UR
N-Nitrosodiphenylamine	mg/kg	0.36 UJ	0.35 UJ
Pentachlorophenol	mg/kg	1.8 U	1.8 U
Phenanthrene	mg/kg	0.36 UJ	0.35 UJ
Phenol	mg/kg	0.36 U	0.35 U
Pyrene	mg/kg	0.36 U	0.35 U
trans-1,2-Dichloroethene	mg/kg	0.0054 UP	0.0054 UP
Trichlorofluoromethane (CFC-11)	mg/kg	0.0054 U	0.0054 U

<i>Metals</i>			
Aluminum	mg/kg	-	-
Antimony	mg/kg	4.3 U	4.3 U
Arsenic	mg/kg	3.2	4.5
Barium	mg/kg	22 U	21 U
Beryllium	mg/kg	0.54 U	0.77
Cadmium	mg/kg	0.81	0.54 U
Calcium	mg/kg	-	-
Chromium Total	mg/kg	8.5	4.9
Cobalt	mg/kg	-	-
Copper	mg/kg	11 U	11 U
Iron	mg/kg	13000	13000
Lead	mg/kg	11	9.2
Magnesium	mg/kg	-	-
Manganese	mg/kg	460	320
Mercury	mg/kg	0.11 U	0.11 U
Nickel	mg/kg	4.4	3.9

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

<i>Parameters</i>	<i>Units</i>		
Potassium	mg/kg	-	-
Selenium	mg/kg	0.54 UJ	0.54 UJ
Silver	mg/kg	1.1 U	1.1 U
Sodium	mg/kg	510	550
Thallium	mg/kg	1.1 U	1.1 U
Vanadium	mg/kg	-	-
Zinc	mg/kg	15	13

*Metals - SPLP*

Aluminum	ug/L	-	-
Antimony	ug/L	-	-
Arsenic	ug/L	-	-
Barium	ug/L	-	-
Beryllium	ug/L	-	-
Cadmium	ug/L	-	-
Calcium	ug/L	-	-
Chromium Total	ug/L	-	-
Cobalt	ug/L	-	-
Copper	ug/L	-	-
Iron	ug/L	-	-
Lead	ug/L	-	-
Magnesium	ug/L	-	-
Manganese	ug/L	-	-
Mercury	ug/L	-	-
Nickel	ug/L	-	-
Potassium	ug/L	-	-
Selenium	ug/L	-	-
Silver	ug/L	-	-
Sodium	ug/L	-	-
Thallium	ug/L	-	-
Vanadium	ug/L	-	-
Zinc	ug/L	-	-

*General Chemistry*

Percent Moisture	%	-	-
Percent Moisture	%v/v	7.7	6.9
pH (water)	pH units	5.1 J	5.5 J
Phenolics (Total)	mg/kg	30 U	30 U
Total Organic Carbon (TOC)	mg/kg	300	300

**ANALYTICAL RESULTS SUMMARY**  
**SOIL SAMPLING**  
**ALL DATA SCREENED TO SOIL-2**  
**GLENN SPRINGS HOLDINGS, INC.**  
**DELAWARE CITY**

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(4-6) ft bgs	(8-10) ft bgs

Parameters	Units	SOIL-2					
<b>Volatile Organic Compounds</b>							
1,1,1-Trichloroethane	mg/kg	32.4	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,1,2,2-Tetrachloroethane	mg/kg	0.000679	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,1,2-Trichloroethane	mg/kg	0.000779	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,1-Dichloroethane	mg/kg	5.10	0.012 UL	0.01 UL	0.008 UL	0.0057 U	0.029 U
1,1-Dichloroethene	mg/kg	2.92	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,2,4-Trichlorobenzene	mg/kg	2.35	0.012 U	0.01 U	0.008 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.000873	0.012 U	0.01 U	0.008 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.000059	0.012 U	0.01 U	0.008 U	-	-
1,2-Dichlorobenzene	mg/kg	4.55	0.012 U	0.01 U	0.008 U	-	-
1,2-Dichloroethane	mg/kg	0.00104	0.012 U	0.01 U	0.008 U	0.0098	0.47
1,2-Dichloroethene (total)	mg/kg	0.375	-	-	-	0.0057 U	0.013 J
1,2-Dichloropropane	mg/kg	0.00206	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
1,3-Dichlorobenzene	mg/kg	0.29	0.012 U	0.01 U	0.008 U	-	-
1,4-Dichlorobenzene	mg/kg	0.00714	0.012 U	0.01 U	0.008 U	-	-
2-Butanone (Methyl Ethyl Ketone)	mg/kg	29.0	0.012 U	0.01 U	0.008 U	-	-
2-Hexanone	mg/kg	-	0.012 U	0.01 U	0.008 U	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	58.8	0.012 U	0.01 U	0.008 U	-	-
Acetone	mg/kg	22.1	0.021 J	0.051 J	0.038 J	-	-
Benzene	mg/kg	0.00190	0.012 U	0.01 U	0.008 U	0.0046 J	0.035
Bromodichloromethane	mg/kg	0.00107	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Bromoform	mg/kg	0.0667	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Bromomethane (Methyl Bromide)	mg/kg	0.0414	0.012 U	0.01 U	0.008 U	0.011 U	0.058 U
Carbon disulfide	mg/kg	19.0	0.012 UL	0.01 UL	0.008 UL	-	-
Carbon tetrachloride	mg/kg	0.00214	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Chlorobenzene	mg/kg	0.68	0.012 U	0.01 U	0.008 U	0.0054 J	0.037
Chloroethane	mg/kg	0.0192	0.012 U	0.01 U	0.008 U	0.011 U	0.058 U
Chloroform (Trichloromethane)	mg/kg	0.000907	0.012 U	0.01 U	0.008 U	0.0057 U	0.017 J
Chloromethane (Methyl Chloride)	mg/kg	0.927	0.012 UJ	0.01 UJ	0.008 UJ	0.011 UJ	0.058 U
cis-1,2-Dichloroethene	mg/kg	0.349	0.012 U	0.01 U	0.008 U	-	-
cis-1,3-Dichloropropene	mg/kg	-	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Cyclohexane	mg/kg	-	0.012 U	0.01 U	0.008 U	-	-
Dibromochloromethane	mg/kg	0.000826	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Dichlorodifluoromethane (CFC-12)	mg/kg	11	0.012 UJ	0.01 UJ	0.008 UJ	-	-
Ethylbenzene	mg/kg	15.0	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Isopropylbenzene	mg/kg	64.4	0.012 U	0.01 U	0.008 U	-	-
Methyl acetate	mg/kg	24.8	0.012 UJ	0.01 UJ	0.008 UJ	-	-
Methyl cyclohexane	mg/kg	-	0.012 U	0.01 U	0.008 U	-	-

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs

Parameters	Units	SOIL-2					
Methyl Tert Butyl Ether	mg/kg	0.0118	0.012 UL	0.01 UL	0.008 UL	-	-
Methylene chloride	mg/kg	0.0190	0.007 B	0.004 B	0.004 B	0.0057 U	0.029 U
Styrene	mg/kg	57.2	0.012 U	0.01 U	0.008 U	-	-
Tetrachloroethene	mg/kg	0.00466	0.012 U	0.01 U	0.008 U	0.0057 U	0.013 J
Toluene	mg/kg	26.7	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
trans-1,2-Dichloroethene	mg/kg	0.823	0.012 U	0.01 U	0.008 U	-	-
trans-1,3-Dichloropropene	mg/kg	-	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Trichloroethene	mg/kg	0.000263	0.012 U	0.01 U	0.008 U	0.0057 U	0.029 U
Trichlorofluoromethane (CFC-11)	mg/kg	22.6	0.012 U	0.01 U	0.008 U	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	2341	0.012 U	0.01 U	0.008 U	-	-
Vinyl chloride	mg/kg	-	0.012 U	0.01 U	0.008 U	0.011 U	0.94
Vinyl chloride	mg/kg	0.000123	0.012 U	0.01 U	0.008 U	0.011 U	0.94
Xylene (total)	mg/kg	2.97	0.012 U	0.01 U	0.008 U	-	-

**Volatile Organic Compounds - SPLP**

1,1,1-Trichloroethane	ug/L	2 U	2 U	2 U	-	-
1,1,2,2-Tetrachloroethane	ug/L	2 U	2 U	2 U	-	-
1,1,2-Trichloroethane	ug/L	2 U	2 U	2 U	-	-
1,1-Dichloroethane	ug/L	2 U	2 U	2 U	-	-
1,1-Dichloroethene	ug/L	2 U	2 U	2 U	-	-
1,2,4-Trichlorobenzene	ug/L	2 U	2 U	2 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	2 U	2 U	2 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	2 U	2 U	2 U	-	-
1,2-Dichlorobenzene	ug/L	2 U	2 U	2 U	-	-
1,2-Dichloroethane	ug/L	2 U	2 U	2 U	-	-
1,2-Dichloropropane	ug/L	2 U	2 U	2 U	-	-
1,3-Dichlorobenzene	ug/L	2 U	2 U	2 U	-	-
1,4-Dichlorobenzene	ug/L	2 U	2 U	2 U	-	-
2-Butanone (Methyl Ethyl Ketone)	ug/L	5 U	5 U	5 U	-	-
2-Hexanone	ug/L	5 U	5 U	5 U	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ug/L	5 U	5 U	5 U	-	-
Acetone	ug/L	3 B	3 B	3 B	-	-
Benzene	ug/L	0.7 U	0.7 U	0.7 U	-	-
Bromodichloromethane	ug/L	2 U	2 U	2 U	-	-
Bromoform	ug/L	2 U	2 U	2 U	-	-
Bromomethane (Methyl Bromide)	ug/L	2 U	2 U	2 U	-	-
Carbon disulfide	ug/L	2 U	2 U	2 U	-	-
Carbon tetrachloride	ug/L	2 U	2 U	2 U	-	-
Chlorobenzene	ug/L	2 U	2 U	2 U	-	-

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(4-6) ft bgs	(8-10) ft bgs
		(Duplicate)		

Parameters	Units	SOIL-2					
Chloroethane	ug/L		2 U	2 U	2 U	-	-
Chloroform (Trichloromethane)	ug/L		2 U	2 U	2 U	-	-
Chloromethane (Methyl Chloride)	ug/L		2 U	2 U	2 U	-	-
cis-1,2-Dichloroethene	ug/L		2 U	2 U	2 U	-	-
cis-1,3-Dichloropropene	ug/L		2 U	2 U	2 U	-	-
Cyclohexane	ug/L		2 U	2 U	2 U	-	-
Dibromochloromethane	ug/L		2 U	2 U	2 U	-	-
Dichlorodifluoromethane (CFC-12)	ug/L		2 U	2 U	2 U	-	-
Ethylbenzene	ug/L		2 U	2 U	2 U	-	-
Isopropylbenzene	ug/L		2 U	2 U	2 U	-	-
Methyl acetate	ug/L		2 U	2 U	2 U	-	-
Methyl cyclohexane	ug/L		2 U	2 U	2 U	-	-
Methyl Tert Butyl Ether	ug/L		2	2.3	3.4	-	-
Methylene chloride	ug/L		58 B	49 JB	780 J	-	-
Styrene	ug/L		2 U	2 U	2 U	-	-
Tetrachloroethene	ug/L		2 U	2 U	2 U	-	-
Toluene	ug/L		2 U	2 U	2 U	-	-
trans-1,2-Dichloroethene	ug/L		2 U	2 U	2 U	-	-
trans-1,3-Dichloropropene	ug/L		2 U	2 U	2 U	-	-
Trichloroethene	ug/L		2 U	2 U	2 U	-	-
Trichlorofluoromethane (CFC-11)	ug/L		2 U	2 U	2 U	-	-
Trifluorotrichloroethane (Freon 113)	ug/L		2 U	2 U	2 U	-	-
Vinyl chloride	ug/L		2 U	2 U	2 U	-	-
Xylene (total)	ug/L		2 U	2 U	2 U	-	-

Semi-volatile Organic Compounds

1,2,4-Trichlorobenzene	mg/kg	2.35	-	-	-	0.38 UR	0.38 UR
1,2-Dichlorobenzene	mg/kg	4.55	-	-	-	0.38 UR	0.38 UR
1,2-Diphenylhydrazine	mg/kg	0.00254	-	-	-	0.38 UJ	0.38 UJ
1,3-Dichlorobenzene	mg/kg	0.29	-	-	-	0.38 UR	0.38 UR
1,4-Dichlorobenzene	mg/kg	0.00714	-	-	-	0.38 UR	0.38 UR
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ethe	mg/kg	0.00169	-	-	-	0.38 U	0.38 U
2,4,5-Trichlorophenol	mg/kg	-	-	-	-	0.38 UP	0.38 UP
2,4,6-Trichlorophenol	mg/kg	-	-	-	-	0.38 U	0.38 U
2,4-Dichlorophenol	mg/kg	1.20	-	-	-	0.38 U	0.38 U
2,4-Dimethylphenol	mg/kg	6.72	-	-	-	0.38 U	0.38 U
2,4-Dinitrophenol	mg/kg	-	-	-	-	1.9 U	1.9 U
2,4-Dinitrotoluene	mg/kg	0.572	-	-	-	0.38 U	0.38 U
2,6-Dinitrotoluene	mg/kg	0.247	-	-	-	0.38 U	0.38 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>			CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
<i>Sample ID:</i>			SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
<i>Sample Date:</i>			6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
<i>Sample Depth:</i>			(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs
<i>Parameters</i>	<i>Units</i>	<i>SOIL-2</i>					
2-Chloroethyl vinyl ether	mg/kg	-	-	-	-	0.011 U	0.058 U
2-Chloronaphthalene	mg/kg	32.1	-	-	-	0.38 U	0.38 U
2-Chlorophenol	mg/kg	-	-	-	-	0.38 U	0.38 U
2-Methylnaphthalene	mg/kg	4.45	-	-	-	0.38 UP	0.38 UP
2-Methylphenol	mg/kg	-	-	-	-	0.38 UP	0.38 UP
2-Nitroaniline	mg/kg	-	-	-	-	1.9 UP	1.9 UP
2-Nitrophenol	mg/kg	-	-	-	-	0.38 U	0.38 U
3,3'-Dichlorobenzidine	mg/kg	0.00491	-	-	-	0.76 UR	0.76 UR
3-Nitroaniline	mg/kg	-	-	-	-	1.9 UP	1.9 UP
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	-	1.9 UJ	1.9 UJ
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	0.38 U	0.38 U
4-Chloro-3-methylphenol	mg/kg	-	-	-	-	0.38 U	0.38 U
4-Chloroaniline	mg/kg	0.97	-	-	-	0.38 UP	0.38 UP
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	0.38 U	0.38 U
4-Methylphenol	mg/kg	-	-	-	-	0.38 UP	0.38 UP
4-Nitroaniline	mg/kg	-	-	-	-	1.9 UP	1.9 UP
4-Nitrophenol	mg/kg	-	-	-	-	1.9 U	1.9 U
Acenaphthene	mg/kg	105	-	-	-	0.38 U	0.38 U
Acenaphthylene	mg/kg	-	-	-	-	0.38 U	0.38 U
Acrolein	mg/kg	0.000202	-	-	-	0.057 UR	0.29 UR
Acrylonitrile	mg/kg	0.000149	-	-	-	0.057 U	0.29 U
Anthracene	mg/kg	466	-	-	-	0.38 UJ	0.38 UJ
Benzidine	mg/kg	-	-	-	-	1.9 UJ	1.9 UJ
Benzo(a)anthracene	mg/kg	1.46	-	-	-	0.38 U	0.38 U
Benzo(a)pyrene	mg/kg	0.374	-	-	-	0.38 U	0.38 U
Benzo(b)fluoranthene	mg/kg	4.51	-	-	-	0.38 U	0.38 U
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	0.38 U	0.38 U
Benzo(k)fluoranthene	mg/kg	45.1	-	-	-	0.38 U	0.38 U
Benzoic acid	mg/kg	-	-	-	-	1.9 UP	1.9 UP
Benzyl Alcohol	mg/kg	146	-	-	-	0.38 UP	0.38 UP
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	0.38 U	0.38 U
bis(2-Chloroethyl)ether	mg/kg	0.0000437	-	-	-	0.38 U	0.38 U
bis(2-Ethylhexyl)phthalate	mg/kg	2890	-	-	-	0.38 U	0.38 U
Butyl benzylphthalate	mg/kg	16819	-	-	-	0.38 UJ	0.38 UJ
Chrysene	mg/kg	146	-	-	-	0.38 U	0.38 U
Dibenz(a,h)anthracene	mg/kg	1.39	-	-	-	0.38 U	0.38 U
Dibenzofuran	mg/kg	3.83	-	-	-	0.38 U	0.38 U
Diethyl phthalate	mg/kg	453	-	-	-	0.38 U	0.38 U
Dimethyl phthalate	mg/kg	-	-	-	-	0.38 U	0.38 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs

Parameters	Units	SOIL-2					
Di-n-butylphthalate	mg/kg	4964	-	-	-	0.38 U	0.38 U
Di-n-octyl phthalate	mg/kg	4858886	-	-	-	0.38 U	0.38 U
Fluoranthene	mg/kg	6255	-	-	-	0.38 U	0.38 U
Fluorene	mg/kg	135	-	-	-	0.38 U	0.38 U
Hexachlorobenzene	mg/kg	0.0515	-	-	-	0.38 U	0.38 U
Hexachlorobutadiene	mg/kg	1.85	-	-	-	0.38 UR	0.38 UR
Hexachlorocyclopentadiene	mg/kg	1753	-	-	-	0.38 U	0.38 U
Hexachloroethane	mg/kg	0.361	-	-	-	0.38 UR	0.38 UR
Indeno(1,2,3-cd)pyrene	mg/kg	12.7	-	-	-	0.38 U	0.38 U
Isophorone	mg/kg	0.415	-	-	-	0.38 UR	0.38 UR
Naphthalene	mg/kg	0.154	-	-	-	0.38 U	0.38 U
Nitrobenzene	mg/kg	0.0233	-	-	-	0.38 UR	0.38 UR
N-Nitrosodimethylamine	mg/kg	0.00000567	-	-	-	0.38 U	0.38 U
N-Nitrosodi-n-propylamine	mg/kg	0.0000475	-	-	-	0.38 UR	0.38 UR
N-Nitrosodiphenylamine	mg/kg	0.760	-	-	-	0.38 UJ	0.38 UJ
Pentachlorophenol	mg/kg	-	-	-	-	1.9 U	1.9 U
Phenanthrene	mg/kg	-	-	-	-	0.38 UJ	0.38 UJ
Phenol	mg/kg	66.6	-	-	-	0.38 U	0.38 U
Pyrene	mg/kg	682	-	-	-	0.38 U	0.38 U
trans-1,2-Dichloroethene	mg/kg	0.823	-	-	-	0.0057 UP	0.013 JP
Trichlorofluoromethane (CFC-11)	mg/kg	22.6	-	-	-	0.0057 U	0.029 U

**Metals**

Aluminum	mg/kg	-	10500	10600	9930	-	-
Antimony	mg/kg	13.2	0.75 BL	0.72 BL	0.87 BL	4.6 U	4.6 U
Arsenic	mg/kg	0.0261	3.0	4.1	3.1	2.9	1.2 U
Barium	mg/kg	6015.2	59.8	59.4	58.2	81	51
Beryllium	mg/kg	1154	0.61	0.68	0.65	0.58	0.64
Cadmium	mg/kg	-	0.38 J	0.48 J	0.26 J	0.96	1.2
Calcium	mg/kg	-	708	391 J	365 J	-	-
Chromium Total	mg/kg	-	13.6	16.1	14.3	19	16
Cobalt	mg/kg	-	5.1 J	6.4 J	6.3	-	-
Copper	mg/kg	10518	6.5 J	6.1 J	5.3 J	14	12 U
Iron	mg/kg	-	12300	14800	13400	14000	21000
Lead	mg/kg	800	19.5	11.6	12.5	20	22
Magnesium	mg/kg	-	1030	1100	1020	-	-
Manganese	mg/kg	952	200	228	245	310	1600
Mercury	mg/kg	2	0.81	0.54	0.45	0.74	0.11 U
Nickel	mg/kg	-	8.2 J	8.7 J	8.9 J	11	17

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	CFTA-2	SB-03	SB-03
SO-7462-061507-EAP-018	SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)
6/15/2007	6/15/2007	6/15/2007	10/21/1993	10/21/1993
(0-2) ft BGS	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs

Parameters	Units	SOIL-2					
Potassium	mg/kg	-	502 J	538 J	475 J	-	-
Selenium	mg/kg	19.0	0.36 U	0.65 J	0.35 J	0.57 UJ	0.58 UJ
Silver	mg/kg	31.0	0.060 U	0.068 U	0.057 U	1.1 U	1.2 U
Sodium	mg/kg	-	23.6 B	21.1 B	17.8 B	530	700
Thallium	mg/kg	3.64	0.97 B	1.5 B	1.4 B	1.1 UJ	1.2 U
Vanadium	mg/kg	730	25.6	27.5	25.6	-	-
Zinc	mg/kg	13622	35.2	28.2	30.2	88	41

**Metals - SPLP**

Aluminum	ug/L		2460	4310 J	1790 J	-	-
Antimony	ug/L		2.4 B	2.7 B	1.6 B	-	-
Arsenic	ug/L		2.0 U	2.0 U	2.0 U	-	-
Barium	ug/L		472 L	324 L	330 L	-	-
Beryllium	ug/L		0.13 B	1.4 B	0.49 B	-	-
Cadmium	ug/L		0.30 B	1.2 B	0.81 B	-	-
Calcium	ug/L		1080 J	2070 J	14500 J	-	-
Chromium Total	ug/L		3.6 B	7.1 J	3.1 B	-	-
Cobalt	ug/L		1.0 B	2.7 B	1.1 B	-	-
Copper	ug/L		4.3 B	4.7 J	5.5 J	-	-
Iron	ug/L		1860	4350 J	1650 J	-	-
Lead	ug/L		1.1 U	4.7	1.1 U	-	-
Magnesium	ug/L		243 J	458 J	294 J	-	-
Manganese	ug/L		17.1 J	37.1 J	15.6 J	-	-
Mercury	ug/L		0.10 UL	0.10 UL	0.10 UL	-	-
Nickel	ug/L		3.0 B	5.1 B	3.0 B	-	-
Potassium	ug/L		454 J	1100 J	3170 J	-	-
Selenium	ug/L		3.0 U	3.2 J	3.0 U	-	-
Silver	ug/L		25.7 U	25.7 U	25.7 U	-	-
Sodium	ug/L		6030 J	7420 J	18500 J	-	-
Thallium	ug/L		2.2 U	2.2 U	2.2 U	-	-
Vanadium	ug/L		4.7 J	10.3 J	4.1 J	-	-
Zinc	ug/L		85.3	75.4	52.6 B	-	-

**General Chemistry**

Percent Moisture	%	-	14.8	25.0	10.8	-	-
Percent Moisture	%v/v	-	-	-	-	13	14
pH (water)	pH units	-	-	-	-	8.2 J	8.0 J
Phenolics (Total)	mg/kg	-	-	-	-	30 U	30 U
Total Organic Carbon (TOC)	mg/kg	-	-	-	-	4600	1300

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

Parameters	Units		
<b>Volatile Organic Compounds</b>			
1,1,1-Trichloroethane	mg/kg	0.0054 U	0.0054 U
1,1,2,2-Tetrachloroethane	mg/kg	0.0054 U	0.0054 U
1,1,2-Trichloroethane	mg/kg	0.0054 U	0.0054 U
1,1-Dichloroethane	mg/kg	0.0054 U	0.0054 U
1,1-Dichloroethene	mg/kg	0.0054 U	0.0054 U
1,2,4-Trichlorobenzene	mg/kg	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	-
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	-	-
1,2-Dichlorobenzene	mg/kg	-	-
1,2-Dichloroethane	mg/kg	0.011	0.0054 U
1,2-Dichloroethene (total)	mg/kg	0.0054 U	0.0054 U
1,2-Dichloropropane	mg/kg	0.0054 U	0.0054 U
1,3-Dichlorobenzene	mg/kg	-	-
1,4-Dichlorobenzene	mg/kg	-	-
2-Butanone (Methyl Ethyl Ketone)	mg/kg	-	-
2-Hexanone	mg/kg	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	-	-
Acetone	mg/kg	-	-
Benzene	mg/kg	0.0028 J	0.0054 U
Bromodichloromethane	mg/kg	0.0054 U	0.0054 U
Bromoform	mg/kg	0.0054 U	0.0054 U
Bromomethane (Methyl Bromide)	mg/kg	0.011 U	0.011 U
Carbon disulfide	mg/kg	-	-
Carbon tetrachloride	mg/kg	0.0054 U	0.0054 U
Chlorobenzene	mg/kg	0.0033 J	0.0054 U
Chloroethane	mg/kg	0.011 U	0.011 U
Chloroform (Trichloromethane)	mg/kg	0.0054 U	0.0054 U
Chloromethane (Methyl Chloride)	mg/kg	0.011 U	0.011 U
cis-1,2-Dichloroethene	mg/kg	-	-
cis-1,3-Dichloropropene	mg/kg	0.0054 U	0.0054 U
Cyclohexane	mg/kg	-	-
Dibromochloromethane	mg/kg	0.0054 U	0.0054 U
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-
Ethylbenzene	mg/kg	0.0054 U	0.0054 U
Isopropylbenzene	mg/kg	-	-
Methyl acetate	mg/kg	-	-
Methyl cyclohexane	mg/kg	-	-

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<b>Sample Location:</b>	<b>SB-03</b>	<b>SB-03</b>
<b>Sample ID:</b>	<b>7462-102193-SB-03 (10-12)</b>	<b>7462-102193-SB-03 (15-17)</b>
<b>Sample Date:</b>	<b>10/21/1993</b>	<b>10/21/1993</b>
<b>Sample Depth:</b>	<b>(10-12) ft bgs</b>	<b>(15-17) ft bgs</b>

Parameters	Units		
Methyl Tert Butyl Ether	mg/kg	-	-
Methylene chloride	mg/kg	0.0054 U	0.0054 U
Styrene	mg/kg	-	-
Tetrachloroethene	mg/kg	0.0054 U	0.0054 U
Toluene	mg/kg	0.0054 U	0.0054 U
trans-1,2-Dichloroethene	mg/kg	-	-
trans-1,3-Dichloropropene	mg/kg	0.0054 U	0.0054 U
Trichloroethene	mg/kg	0.0054 U	0.0054 U
Trichlorofluoromethane (CFC-11)	mg/kg	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	-	-
Vinyl chloride	mg/kg	0.039	0.011 U
Vinyl chloride	mg/kg	0.039	0.011 U
Xylene (total)	mg/kg	-	-

Volatile Organic Compounds - SPLP			
1,1,1-Trichloroethane	ug/L	-	-
1,1,2,2-Tetrachloroethane	ug/L	-	-
1,1,2-Trichloroethane	ug/L	-	-
1,1-Dichloroethane	ug/L	-	-
1,1-Dichloroethene	ug/L	-	-
1,2,4-Trichlorobenzene	ug/L	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	-	-
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	-	-
1,2-Dichlorobenzene	ug/L	-	-
1,2-Dichloroethane	ug/L	-	-
1,2-Dichloropropane	ug/L	-	-
1,3-Dichlorobenzene	ug/L	-	-
1,4-Dichlorobenzene	ug/L	-	-
2-Butanone (Methyl Ethyl Ketone)	ug/L	-	-
2-Hexanone	ug/L	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ug/L	-	-
Acetone	ug/L	-	-
Benzene	ug/L	-	-
Bromodichloromethane	ug/L	-	-
Bromoform	ug/L	-	-
Bromomethane (Methyl Bromide)	ug/L	-	-
Carbon disulfide	ug/L	-	-
Carbon tetrachloride	ug/L	-	-
Chlorobenzene	ug/L	-	-

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<b>Sample Location:</b>	<b>SB-03</b>	<b>SB-03</b>
<b>Sample ID:</b>	<b>7462-102193-SB-03 (10-12)</b>	<b>7462-102193-SB-03 (15-17)</b>
<b>Sample Date:</b>	<b>10/21/1993</b>	<b>10/21/1993</b>
<b>Sample Depth:</b>	<b>(10-12) ft bgs</b>	<b>(15-17) ft bgs</b>

<i>Parameters</i>	<i>Units</i>		
Chloroethane	ug/L	-	-
Chloroform (Trichloromethane)	ug/L	-	-
Chloromethane (Methyl Chloride)	ug/L	-	-
cis-1,2-Dichloroethene	ug/L	-	-
cis-1,3-Dichloropropene	ug/L	-	-
Cyclohexane	ug/L	-	-
Dibromochloromethane	ug/L	-	-
Dichlorodifluoromethane (CFC-12)	ug/L	-	-
Ethylbenzene	ug/L	-	-
Isopropylbenzene	ug/L	-	-
Methyl acetate	ug/L	-	-
Methyl cyclohexane	ug/L	-	-
Methyl Tert Butyl Ether	ug/L	-	-
Methylene chloride	ug/L	-	-
Styrene	ug/L	-	-
Tetrachloroethene	ug/L	-	-
Toluene	ug/L	-	-
trans-1,2-Dichloroethene	ug/L	-	-
trans-1,3-Dichloropropene	ug/L	-	-
Trichloroethene	ug/L	-	-
Trichlorofluoromethane (CFC-11)	ug/L	-	-
Trifluorotrichloroethane (Freon 113)	ug/L	-	-
Vinyl chloride	ug/L	-	-
Xylene (total)	ug/L	-	-

***Semi-volatile Organic Compounds***

1,2,4-Trichlorobenzene	mg/kg	0.36 UR	0.35 UR
1,2-Dichlorobenzene	mg/kg	0.36 UR	0.35 UR
1,2-Diphenylhydrazine	mg/kg	0.36 UJ	0.35 UJ
1,3-Dichlorobenzene	mg/kg	0.36 UR	0.35 UR
1,4-Dichlorobenzene	mg/kg	0.36 UR	0.35 UR
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ethe	mg/kg	0.36 U	0.35 U
2,4,5-Trichlorophenol	mg/kg	0.36 UP	0.35 UP
2,4,6-Trichlorophenol	mg/kg	0.36 U	0.35 U
2,4-Dichlorophenol	mg/kg	0.36 U	0.35 U
2,4-Dimethylphenol	mg/kg	0.36 U	0.35 U
2,4-Dinitrophenol	mg/kg	1.8 U	1.8 U
2,4-Dinitrotoluene	mg/kg	0.36 U	0.35 U
2,6-Dinitrotoluene	mg/kg	0.36 U	0.35 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

<i>Parameters</i>	<i>Units</i>		
2-Chloroethyl vinyl ether	mg/kg	0.011 U	0.011 U
2-Chloronaphthalene	mg/kg	0.36 U	0.35 U
2-Chlorophenol	mg/kg	0.36 U	0.35 U
2-Methylnaphthalene	mg/kg	0.36 UP	0.35 UP
2-Methylphenol	mg/kg	0.36 UP	0.35 UP
2-Nitroaniline	mg/kg	1.8 UP	1.8 UP
2-Nitrophenol	mg/kg	0.36 U	0.35 U
3,3'-Dichlorobenzidine	mg/kg	0.72 UR	0.71 UR
3-Nitroaniline	mg/kg	1.8 UP	1.8 UP
4,6-Dinitro-2-methylphenol	mg/kg	1.8 UJ	1.8 UJ
4-Bromophenyl phenyl ether	mg/kg	0.36 U	0.35 U
4-Chloro-3-methylphenol	mg/kg	0.36 U	0.35 U
4-Chloroaniline	mg/kg	0.36 UP	0.35 UP
4-Chlorophenyl phenyl ether	mg/kg	0.36 U	0.35 U
4-Methylphenol	mg/kg	0.36 UP	0.35 UP
4-Nitroaniline	mg/kg	1.8 UP	1.8 UP
4-Nitrophenol	mg/kg	1.8 U	1.8 U
Acenaphthene	mg/kg	0.36 U	0.35 U
Acenaphthylene	mg/kg	0.36 U	0.35 U
Acrolein	mg/kg	0.054 UR	0.054 UR
Acrylonitrile	mg/kg	0.054 U	0.054 U
Anthracene	mg/kg	0.36 UJ	0.35 UJ
Benzidine	mg/kg	1.8 UJ	1.8 UJ
Benzo(a)anthracene	mg/kg	0.36 U	0.35 U
Benzo(a)pyrene	mg/kg	0.36 U	0.35 U
Benzo(b)fluoranthene	mg/kg	0.36 U	0.35 U
Benzo(g,h,i)perylene	mg/kg	0.36 U	0.35 U
Benzo(k)fluoranthene	mg/kg	0.36 U	0.35 U
Benzoic acid	mg/kg	1.8 UP	1.8 UP
Benzyl Alcohol	mg/kg	0.36 UP	0.35 UP
bis(2-Chloroethoxy)methane	mg/kg	0.36 U	0.35 U
bis(2-Chloroethyl)ether	mg/kg	0.36 U	0.35 U
bis(2-Ethylhexyl)phthalate	mg/kg	0.36 U	0.35 U
Butyl benzylphthalate	mg/kg	0.36 UJ	0.35 UJ
Chrysene	mg/kg	0.36 U	0.35 U
Dibenz(a,h)anthracene	mg/kg	0.36 U	0.35 U
Dibenzofuran	mg/kg	0.36 U	0.35 U
Diethyl phthalate	mg/kg	0.36 U	0.35 U
Dimethyl phthalate	mg/kg	0.36 U	0.35 U

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

<i>Parameters</i>	<i>Units</i>		
Di-n-butylphthalate	mg/kg	0.36 U	0.35 U
Di-n-octyl phthalate	mg/kg	0.36 U	0.35 U
Fluoranthene	mg/kg	0.36 U	0.35 U
Fluorene	mg/kg	0.36 U	0.35 U
Hexachlorobenzene	mg/kg	0.36 U	0.35 U
Hexachlorobutadiene	mg/kg	0.36 UR	0.35 UR
Hexachlorocyclopentadiene	mg/kg	0.36 U	0.35 U
Hexachloroethane	mg/kg	0.36 UR	0.35 UR
Indeno(1,2,3-cd)pyrene	mg/kg	0.36 U	0.35 U
Isophorone	mg/kg	0.36 UR	0.35 UR
Naphthalene	mg/kg	0.36 U	0.35 U
Nitrobenzene	mg/kg	0.36 UR	0.35 UR
N-Nitrosodimethylamine	mg/kg	0.36 U	0.35 U
N-Nitrosodi-n-propylamine	mg/kg	0.36 UR	0.35 UR
N-Nitrosodiphenylamine	mg/kg	0.36 UJ	0.35 UJ
Pentachlorophenol	mg/kg	1.8 U	1.8 U
Phenanthrene	mg/kg	0.36 UJ	0.35 UJ
Phenol	mg/kg	0.36 U	0.35 U
Pyrene	mg/kg	0.36 U	0.35 U
trans-1,2-Dichloroethene	mg/kg	0.0054 UP	0.0054 UP
Trichlorofluoromethane (CFC-11)	mg/kg	0.0054 U	0.0054 U

<i>Metals</i>			
Aluminum	mg/kg	-	-
Antimony	mg/kg	4.3 U	4.3 U
Arsenic	mg/kg	3.2	4.5
Barium	mg/kg	22 U	21 U
Beryllium	mg/kg	0.54 U	0.77
Cadmium	mg/kg	0.81	0.54 U
Calcium	mg/kg	-	-
Chromium Total	mg/kg	8.5	4.9
Cobalt	mg/kg	-	-
Copper	mg/kg	11 U	11 U
Iron	mg/kg	13000	13000
Lead	mg/kg	11	9.2
Magnesium	mg/kg	-	-
Manganese	mg/kg	460	320
Mercury	mg/kg	0.11 U	0.11 U
Nickel	mg/kg	4.4	3.9

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

<i>Sample Location:</i>	SB-03	SB-03
<i>Sample ID:</i>	7462-102193-SB-03 (10-12)	7462-102193-SB-03 (15-17)
<i>Sample Date:</i>	10/21/1993	10/21/1993
<i>Sample Depth:</i>	(10-12) ft bgs	(15-17) ft bgs

<i>Parameters</i>	<i>Units</i>		
Potassium	mg/kg	-	-
Selenium	mg/kg	0.54 UJ	0.54 UJ
Silver	mg/kg	1.1 U	1.1 U
Sodium	mg/kg	510	550
Thallium	mg/kg	1.1 U	1.1 U
Vanadium	mg/kg	-	-
Zinc	mg/kg	15	13

*Metals - SPLP*

Aluminum	ug/L	-	-
Antimony	ug/L	-	-
Arsenic	ug/L	-	-
Barium	ug/L	-	-
Beryllium	ug/L	-	-
Cadmium	ug/L	-	-
Calcium	ug/L	-	-
Chromium Total	ug/L	-	-
Cobalt	ug/L	-	-
Copper	ug/L	-	-
Iron	ug/L	-	-
Lead	ug/L	-	-
Magnesium	ug/L	-	-
Manganese	ug/L	-	-
Mercury	ug/L	-	-
Nickel	ug/L	-	-
Potassium	ug/L	-	-
Selenium	ug/L	-	-
Silver	ug/L	-	-
Sodium	ug/L	-	-
Thallium	ug/L	-	-
Vanadium	ug/L	-	-
Zinc	ug/L	-	-

*General Chemistry*

Percent Moisture	%	-	-
Percent Moisture	%v/v	7.7	6.9
pH (water)	pH units	5.1 J	5.5 J
Phenolics (Total)	mg/kg	30 U	30 U
Total Organic Carbon (TOC)	mg/kg	300	300

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY**

Page 1 of 7

<b>Sample Location:</b>	<b>CFTA-1</b>	<b>CFTA-2</b>	<b>WB-14-1993</b>	<b>WB-14A-1993</b>
<b>Sample ID:</b>	SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
<b>Sample Date:</b>	6/15/2007	6/15/2007	9/22/1993	9/22/1993
<b>Sample Depth:</b>	(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

<b>Parameters</b>	<b>Units</b>	<b>SOIL-1</b>
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**Volatile Organic Compounds**

1,1,1-Trichloroethane	mg/kg	286160	0.013 U	0.015 U	0.021 U	0.007 U
1,1,2,2-Tetrachloroethane	mg/kg	14.3	0.013 U	0.015 U	0.021 U	0.007 UJ
1,1,2-Trichloroethane	mg/kg	50.2	0.013 U	0.015 U	0.021 U	0.007 U
1,1-Dichloroethane	mg/kg	204400	0.013 UL	0.015 UL	0.021 U	0.007 U
1,1-Dichloroethene	mg/kg	51100	0.013 U	0.015 U	0.021 U	0.007 U
1,2,4-Trichlorobenzene	mg/kg	10220	0.013 U	0.015 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	2.04	0.013 U	0.015 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	1.431	0.013 U	0.015 U	-	-
1,2-Dichlorobenzene	mg/kg	91980	0.013 U	0.015 U	-	-
1,2-Dichloroethane	mg/kg	31.4	0.013 U	0.009 J	0.021 U	0.007 U
1,2-Dichloroethene (total)	mg/kg	9198	-	-	0.021 U	0.007 UJ
1,2-Dichloropropane	mg/kg	42.1	0.013 U	0.015 U	0.021 U	0.007 U
1,3-Dichlorobenzene	mg/kg	3066	0.013 U	0.015 U	-	-
1,4-Dichlorobenzene	mg/kg	119	0.013 U	0.015 U	-	-
2-Butanone (Methyl Ethyl Ketone)	mg/kg	613200	0.013 U	0.015 U	-	-
2-Hexanone	mg/kg	-	0.013 U	0.015 U	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	-	0.013 U	0.015 U	-	-
Acetone	mg/kg	919800	0.013 UJ	0.015 UJ	-	-
Benzene	mg/kg	52.03	0.013 U	0.015 U	0.021 U	0.0051 J
Bromodichloromethane	mg/kg	46.15	0.013 U	0.015 U	0.021 U	0.007 U
Bromoform	mg/kg	362	0.013 U	0.015 U	0.021 U	0.007 U
Bromomethane (Methyl Bromide)	mg/kg	1430.8	0.013 U	0.015 U	0.042 UJ	0.014 UJ
Carbon disulfide	mg/kg	102200	0.013 UL	0.015 UL	-	-
Carbon tetrachloride	mg/kg	22.0	0.013 U	0.015 U	0.021 U	0.007 U
Chlorobenzene	mg/kg	20440	0.013 U	0.015 U	0.021 U	0.007 UJ
Chloroethane	mg/kg	987	0.013 U	0.015 U	0.042 UJ	0.014 UJ
Chloroform (Trichloromethane)	mg/kg	10220	0.009 B	0.043 B	0.018 J	0.011
Chloromethane (Methyl Chloride)	mg/kg	-	0.013 UJ	0.015 UJ	0.042 U	0.014 U
cis-1,2-Dichloroethene	mg/kg	10220	0.013 U	0.015 U	-	-
cis-1,3-Dichloropropene	mg/kg	-	0.013 U	0.015 U	0.021 U	0.007 UJ
Cyclohexane	mg/kg	-	0.013 U	0.015 U	-	-
Dibromochloromethane	mg/kg	34.1	0.013 U	0.015 U	0.021 U	0.007 U
Dichlorodifluoromethane (CFC-12)	mg/kg	204400	0.013 UJ	0.015 UJ	-	-
Ethylbenzene	mg/kg	102200	0.013 U	0.015 U	0.03	0.007 UJ
Isopropylbenzene	mg/kg	102200	0.013 U	0.015 U	-	-
Methyl acetate	mg/kg	1022000	0.013 UJ	0.015 UJ	-	-
Methyl cyclohexane	mg/kg	-	0.013 U	0.015 U	-	-
Methyl Tert Butyl Ether	mg/kg	715	0.013 UL	0.015 UL	-	-

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY**

<i>Sample Location:</i>	<i>CFTA-1</i>	<i>CFTA-2</i>	<i>WB-14-1993</i>	<i>WB-14A-1993</i>
<i>Sample ID:</i>	<i>SO-7462-061507-EAP-019</i>	<i>SO-7462-061507-EAP-016</i>	<i>7462-092293-WB-14 (2-4)</i>	<i>7462-092293-WB-14A (2-4)</i>
<i>Sample Date:</i>	<i>6/15/2007</i>	<i>6/15/2007</i>	<i>9/22/1993</i>	<i>9/22/1993</i>
<i>Sample Depth:</i>	<i>(8-10) ft BGS</i>	<i>(8-10) ft BGS</i>	<i>(2-4) ft bgs</i>	<i>(2-4) ft bgs</i>

<i>Parameters</i>	<i>Units</i>	<i>SOIL-1</i>				
Methylene chloride	mg/kg	382	0.005 B	0.008 B	0.042 UJ	0.014 UJ
Styrene	mg/kg	204400	0.013 U	0.015 U	-	-
Tetrachloroethene	mg/kg	5.30	0.007 J	0.045	0.09	0.011 J
Toluene	mg/kg	81760	0.013 U	0.015 U	0.021 U	0.007 U
trans-1,2-Dichloroethene	mg/kg	20440	0.013 U	0.01 J	-	-
trans-1,3-Dichloropropene	mg/kg	-	0.013 U	0.015 U	0.021 U	0.007 UJ
Trichloroethene	mg/kg	7.15	0.013 U	0.003 J	0.012 J	0.007 U
Trichlorofluoromethane (CFC-11)	mg/kg	306600	0.013 U	0.015 U	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	30660000	0.013 U	0.015 U	-	-
Vinyl chloride	mg/kg	3.97	0.013 U	0.015 U	0.22	0.023
Vinyl chloride	mg/kg	3.97	0.013 U	0.015 U	0.22	0.023
Xylene (total)	mg/kg	204400	0.013 U	0.015 U	-	-

*Volatile Organic Compounds - TCLP*

1,1-Dichloroethene	mg/L	-	-	-	0.020 U	-
1,2-Dichloroethane	mg/L	-	-	-	0.020 U	-
Benzene	mg/L	-	-	-	0.030	-
Carbon tetrachloride	mg/L	-	-	-	0.020 U	-
Chlorobenzene	mg/L	-	-	-	0.020 U	-
Chloroform (Trichloromethane)	mg/L	-	-	-	0.020 U	-
Tetrachloroethene	mg/L	-	-	-	0.020 U	-
Trichloroethene	mg/L	-	-	-	0.020 U	-
Vinyl chloride	mg/L	-	-	-	0.050 U	-

*Volatile Organic Compounds - SPLP*

1,1,1-Trichloroethane	ug/L	-	2 U	2 U	-	-
1,1,2,2-Tetrachloroethane	ug/L	-	2 U	2 U	-	-
1,1,2-Trichloroethane	ug/L	-	2 U	2 U	-	-
1,1-Dichloroethane	ug/L	-	2 U	2 U	-	-
1,1-Dichloroethene	ug/L	-	2 U	2 U	-	-
1,2,4-Trichlorobenzene	ug/L	-	2 U	2 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	-	2 U	2 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	-	2 U	2 U	-	-
1,2-Dichlorobenzene	ug/L	-	2 U	2 U	-	-
1,2-Dichloroethane	ug/L	-	2 U	2 U	-	-
1,2-Dichloropropane	ug/L	-	2 U	2 U	-	-
1,3-Dichlorobenzene	ug/L	-	2 U	2 U	-	-
1,4-Dichlorobenzene	ug/L	-	2 U	2 U	-	-
2-Butanone (Methyl Ethyl Ketone)	ug/L	-	5 U	5 U	-	-
2-Hexanone	ug/L	-	5 U	5 U	-	-

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY

<i>Sample Location:</i>	CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
<i>Sample ID:</i>	SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
<i>Sample Date:</i>	6/15/2007	6/15/2007	9/22/1993	9/22/1993
<i>Sample Depth:</i>	(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

<i>Parameters</i>	<i>Units</i>	<i>SOIL-1</i>				
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ug/L	-	5 U	5 U	-	-
Acetone	ug/L	-	5 U	5 U	-	-
Benzene	ug/L	-	0.7 U	0.7 U	-	-
Bromodichloromethane	ug/L	-	2 U	2 U	-	-
Bromoform	ug/L	-	2 U	2 U	-	-
Bromomethane (Methyl Bromide)	ug/L	-	2 U	2 U	-	-
Carbon disulfide	ug/L	-	2 U	2 U	-	-
Carbon tetrachloride	ug/L	-	2 U	2 U	-	-
Chlorobenzene	ug/L	-	2 U	2 U	-	-
Chloroethane	ug/L	-	2 U	2 U	-	-
Chloroform (Trichloromethane)	ug/L	-	2 U	2 U	-	-
Chloromethane (Methyl Chloride)	ug/L	-	2 U	2 U	-	-
cis-1,2-Dichloroethene	ug/L	-	2 U	2 U	-	-
cis-1,3-Dichloropropene	ug/L	-	2 U	2 U	-	-
Cyclohexane	ug/L	-	2 U	2 U	-	-
Dibromochloromethane	ug/L	-	2 U	2 U	-	-
Dichlorodifluoromethane (CFC-12)	ug/L	-	2 U	2 U	-	-
Ethylbenzene	ug/L	-	2 U	2 U	-	-
Isopropylbenzene	ug/L	-	2 U	2 U	-	-
Methyl acetate	ug/L	-	2 U	2 U	-	-
Methyl cyclohexane	ug/L	-	2 U	2 U	-	-
Methyl Tert Butyl Ether	ug/L	-	1 J	2	-	-
Methylene chloride	ug/L	-	45 B	2 U	-	-
Styrene	ug/L	-	2 U	2 U	-	-
Tetrachloroethene	ug/L	-	2 U	2 U	-	-
Toluene	ug/L	-	2 U	2 U	-	-
trans-1,2-Dichloroethene	ug/L	-	2 U	2 U	-	-
trans-1,3-Dichloropropene	ug/L	-	2 U	2 U	-	-
Trichloroethene	ug/L	-	2 U	2 U	-	-
Trichlorofluoromethane (CFC-11)	ug/L	-	2 U	2 U	-	-
Trifluorotrchloroethane (Freon 113)	ug/L	-	2 U	2 U	-	-
Vinyl chloride	ug/L	-	2 U	2 U	-	-
Xylene (total)	ug/L	-	2 U	2 U	-	-

*Semi-volatile Organic Compounds*

1,2,4-Trichlorobenzene	mg/kg	10220	-	-	2.8 UJ	1.9 U
1,2-Dichlorobenzene	mg/kg	91980	-	-	2.8 UJ	1.9 U
1,2-Diphenylhydrazine	mg/kg	3.58	-	-	2.8 UJ	1.9 U
1,3-Dichlorobenzene	mg/kg	3066	-	-	2.8 UJ	1.9 U
1,4-Dichlorobenzene	mg/kg	119	-	-	2.8 UJ	1.9 U

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

Parameters	Units	SOIL-1				
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether	mg/kg	40.88	-	-	2.8 UJ	1.9 U
2,4,5-Trichlorophenol	mg/kg	102200	-	-	2.8 UP	1.9 UP
2,4,6-Trichlorophenol	mg/kg	260	-	-	2.8 UR	1.9 U
2,4-Dichlorophenol	mg/kg	3066	-	-	2.8 UR	1.9 U
2,4-Dimethylphenol	mg/kg	20440	-	-	2.8 UR	1.9 U
2,4-Dinitrophenol	mg/kg	2044	-	-	14 UR	9.3 U
2,4-Dinitrotoluene	mg/kg	2044	-	-	2.8 UJ	1.9 U
2,6-Dinitrotoluene	mg/kg	1022	-	-	2.8 UJ	1.9 U
2-Chloroethyl vinyl ether	mg/kg	-	-	-	0.042 U	0.014 UJ
2-Chloronaphthalene	mg/kg	81760	-	-	2.8 UJ	1.9 U
2-Chlorophenol	mg/kg	5110	-	-	2.8 UR	1.9 U
2-Methylnaphthalene	mg/kg	4088	-	-	2.8 UP	1.9 UP
2-Methylphenol	mg/kg	51100	-	-	2.8 UP	1.9 UP
2-Nitroaniline	mg/kg	3066	-	-	14 UP	9.3 UP
2-Nitrophenol	mg/kg	-	-	-	2.8 UR	1.9 U
3,3'-Dichlorobenzidine	mg/kg	6.36	-	-	5.5 UJ	3.7 U
3-Nitroaniline	mg/kg	143	-	-	14 UP	9.3 UP
4,6-Dinitro-2-methylphenol	mg/kg	102	-	-	R	9.3 U
4-Bromophenyl phenyl ether	mg/kg	-	-	-	2.8 UJ	1.9 U
4-Chloro-3-methylphenol	mg/kg	-	-	-	2.8 UR	1.9 U
4-Chloroaniline	mg/kg	4088	-	-	2.8 UP	1.9 UP
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	2.8 UJ	1.9 U
4-Methylphenol	mg/kg	5110	-	-	2.8 UP	1.9 UP
4-Nitroaniline	mg/kg	143	-	-	14 UP	9.3 UP
4-Nitrophenol	mg/kg	-	-	-	14 UR	9.3 UJ
Acenaphthene	mg/kg	61320	-	-	2.8 UJ	1.9 U
Acenaphthylene	mg/kg	-	-	-	2.8 UJ	1.9 U
Acrolein	mg/kg	511	-	-	0.21 UJ	0.07 UJ
Acrylonitrile	mg/kg	5.3	-	-	0.21 U	0.07 UJ
Anthracene	mg/kg	306600	-	-	2.8 UJ	1.9 U
Benzidine	mg/kg	0.0124	-	-	2.8 UJ	1.9 UJ
Benzo(a)anthracene	mg/kg	3.92	-	-	2.8 UJ	1.9 U
Benzo(a)pyrene	mg/kg	0.392	-	-	2.8 UJ	1.9 U
Benzo(b)fluoranthene	mg/kg	3.92	-	-	2.8 UJ	1.9 U
Benzo(g,h,i)perylene	mg/kg	-	-	-	2.8 UJ	1.9 U
Benzo(k)fluoranthene	mg/kg	39.2	-	-	2.8 UJ	1.9 U
Benzoic acid	mg/kg	4088000	-	-	14 UP	9.3 UP
Benzyl Alcohol	mg/kg	511000	-	-	2.8 UP	1.9 UP
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	2.8 UJ	1.9 U
bis(2-Chloroethyl)ether	mg/kg	2.6	-	-	2.8 UJ	1.9 U

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY**

*Sample Location:*

*Sample ID:*

*Sample Date:*

*Sample Depth:*

<i>CFTA-1</i>	<i>CFTA-2</i>	<i>WB-14-1993</i>	<i>WB-14A-1993</i>
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

<i>Parameters</i>	<i>Units</i>	<i>SOIL-1</i>				
bis(2-Ethylhexyl)phthalate	mg/kg	204.4	-	-	2.8 UJ	0.74 J
Butyl benzylphthalate	mg/kg	204400	-	-	2.8 UJ	1.9 U
Chrysene	mg/kg	392	-	-	2.8 UJ	1.9 U
Dibenz(a,h)anthracene	mg/kg	0.392	-	-	2.8 UJ	1.9 U
Dibenzofuran	mg/kg	2044	-	-	2.8 UJ	1.9 U
Diethyl phthalate	mg/kg	817600	-	-	2.8 UJ	1.9 U
Dimethyl phthalate	mg/kg	10220000	-	-	2.8 UJ	1.9 U
Di-n-butylphthalate	mg/kg	102200	-	-	2.8 UJ	1.9 U
Di-n-octyl phthalate	mg/kg	40880	-	-	2.8 UJ	1.9 U
Fluoranthene	mg/kg	40880	-	-	2.8 UJ	1.9 U
Fluorene	mg/kg	40880	-	-	2.8 UJ	1.9 U
Hexachlorobenzene	mg/kg	1.79	-	-	2.8 UJ	1.9 U
Hexachlorobutadiene	mg/kg	36.7	-	-	2.8 UJ	1.9 U
Hexachlorocyclopentadiene	mg/kg	6132	-	-	2.8 UJ	1.9 U
Hexachloroethane	mg/kg	204	-	-	2.8 UJ	1.9 U
Indeno(1,2,3-cd)pyrene	mg/kg	3.92	-	-	2.8 UJ	1.9 U
Isophorone	mg/kg	3012	-	-	2.8 UJ	1.9 U
Naphthalene	mg/kg	20440	-	-	2.8 UJ	1.9 U
Nitrobenzene	mg/kg	511	-	-	2.8 UJ	1.9 U
N-Nitrosodimethylamine	mg/kg	0.0561	-	-	2.8 UJ	1.9 UJ
N-Nitrosodi-n-propylamine	mg/kg	0.409	-	-	2.8 UJ	1.9 U
N-Nitrosodiphenylamine	mg/kg	584	-	-	2.8 UJ	1.9 U
Pentachlorophenol	mg/kg	23.8	-	-	14 UR	9.3 UJ
Phenanthrene	mg/kg	-	-	-	2.8 UJ	1.9 U
Phenol	mg/kg	306600	-	-	2.8 UR	1.9 U
Pyrene	mg/kg	30660	-	-	2.8 UJ	1.9 U
trans-1,2-Dichloroethene	mg/kg	20440	-	-	0.021 UP	0.007 UP
Trichlorofluoromethane (CFC-11)	mg/kg	306600	-	-	0.021 U	0.007 U

*Semi-volatile Organic Compounds - TCLP*

1,4-Dichlorobenzene	mg/L	-	-	-	0.040 U	-
2,4,5-Trichlorophenol	mg/L	-	-	-	0.040 U	-
2,4,6-Trichlorophenol	mg/L	-	-	-	0.040 U	-
2,4-Dinitrotoluene	mg/L	-	-	-	0.040 U	-
2,6-Dinitrotoluene	mg/L	-	-	-	0.250 U	-
Hexachlorobenzene	ug/L	-	-	-	0.04 U	-
Hexachlorobutadiene	mg/L	-	-	-	0.040 U	-
Hexachloroethane	mg/L	-	-	-	0.040 U	-
Methylphenol (Cresol)	mg/L	-	-	-	0.040 U	-
Nitrobenzene	mg/L	-	-	-	0.040 U	-

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

**Parameters**

Pentachlorophenol  
Pyridine

Units SOIL-1

mg/L  
mg/L

-	-	0.200 U	-
-	-	0.040 UJ	-

**Metals**

Aluminum	mg/kg	1022000
Antimony	mg/kg	408.8
Arsenic	mg/kg	11
Barium	mg/kg	204400
Beryllium	mg/kg	2044
Cadmium	mg/kg	-
Calcium	mg/kg	-
Chromium Total	mg/kg	-
Cobalt	mg/kg	20440
Copper	mg/kg	40880
Iron	mg/kg	306600
Lead	mg/kg	800
Magnesium	mg/kg	-
Manganese	mg/kg	20440
Mercury	mg/kg	6.5
Nickel	mg/kg	20440
Potassium	mg/kg	-
Selenium	mg/kg	5110
Silver	mg/kg	5110
Sodium	mg/kg	-
Thallium	mg/kg	71.5
Vanadium	mg/kg	1022
Zinc	mg/kg	306600

7630	6060	-	-
0.96 BL	0.77 BL	8.3 U	5.6 U
2.8	2.1	2.5	1.4 U
47.0	24.7 J	42 U	28 U
0.33 J	0.40 J	1 UJ	0.7 UJ
0.52 J	0.33 J	1 U	0.70 U
176000	624 J	-	-
13.0	14.2	6.2	18
5.1 J	5.7 J	-	-
15.7 J	4.5 J	21 U	14 U
10200	10900	5200	1500
23.1	5.2	24	7.2
5380	402 J	-	-
152	199	63	24
51.9	1.1	80	0.66
9.2 J	6.5 J	5.9	3.5 U
811 J	320 J	-	-
0.39 U	0.38 U	1.0 UJ	0.70 U
0.065 U	0.064 U	2.1 U	1.4 U
2530 J	36.2 B	3700	430
0.49 B	1.1 B	2.1 U	1.4 U
13.6	16.5	-	-
70.4	44.4	57	74

**Metals - TCLP**

Arsenic	mg/L	-
Barium	mg/L	-
Cadmium	mg/L	-
Chromium Total	mg/L	-
Lead	mg/L	-
Mercury	mg/L	-
Selenium	mg/L	-
Silver	mg/L	-

-	-	3.00 U	-
-	-	0.224	-
-	-	0.05 U	-
-	-	0.1 U	-
-	-	0.500 U	-
-	-	0.001 U	-
-	-	3.00 U	-
-	-	0.100 U	-

**Metals - SPLP**

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-1  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY

*Sample Location:*

*Sample ID:*

*Sample Date:*

*Sample Depth:*

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

*Parameters*

	<i>Units</i>	<i>SOIL-1</i>				
Aluminum	ug/L	-	75.8 B	940	-	-
Antimony	ug/L	-	1.6 U	1.6 U	-	-
Arsenic	ug/L	-	2.9 J	2.0 U	-	-
Barium	ug/L	-	52.6 J	179 J	-	-
Beryllium	ug/L	-	0.11 B	0.31 B	-	-
Cadmium	ug/L	-	0.64 B	0.16 U	-	-
Calcium	ug/L	-	632000	14400	-	-
Chromium Total	ug/L	-	2.2 B	2.0 B	-	-
Cobalt	ug/L	-	1.3 B	0.40 U	-	-
Copper	ug/L	-	12.6 J	0.44 U	-	-
Iron	ug/L	-	59.9 B	837	-	-
Lead	ug/L	-	1.1 U	1.1 U	-	-
Magnesium	ug/L	-	1890 J	486 J	-	-
Manganese	ug/L	-	8.2 J	5.0 J	-	-
Mercury	ug/L	-	0.10 UL	0.10 UL	-	-
Nickel	ug/L	-	2.5 B	0.81 B	-	-
Potassium	ug/L	-	2830 J	480 J	-	-
Selenium	ug/L	-	3.0 U	3.0 U	-	-
Silver	ug/L	-	25.7 U	25.7 U	-	-
Sodium	ug/L	-	4440 J	4190 J	-	-
Thallium	ug/L	-	2.2 U	2.2 U	-	-
Vanadium	ug/L	-	1.1 U	1.5 J	-	-
Zinc	ug/L	-	40.5 B	39.6 B	-	-

*General Chemistry*

Percent Moisture	%	-	21.8	20.2	-	-
Percent Moisture	%v/v	-	-	-	52	29
pH (water)	pH units	-	-	-	11 J	8.1 J
Phenolics (Total)	mg/kg	-	-	-	0.521 U	0.352 U
Total Organic Carbon (TOC)	mg/kg	-	-	-	13000	8000

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY**

*Sample Location:*

*Sample ID:*

*Sample Date:*

*Sample Depth:*

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

*Parameters*

*Units SOIL-2*

***Volatile Organic Compounds***

1,1,1-Trichloroethane	mg/kg	32.4	0.013 U	0.015 U	0.021 U	0.007 U
1,1,2,2-Tetrachloroethane	mg/kg	0.000679	0.013 U	0.015 U	0.021 U	0.007 UJ
1,1,2-Trichloroethane	mg/kg	0.000779	0.013 U	0.015 U	0.021 U	0.007 U
1,1-Dichloroethane	mg/kg	5.10	0.013 UL	0.015 UL	0.021 U	0.007 U
1,1-Dichloroethene	mg/kg	2.92	0.013 U	0.015 U	0.021 U	0.007 U
1,2,4-Trichlorobenzene	mg/kg	2.35	0.013 U	0.015 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.000873	0.013 U	0.015 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.000059	0.013 U	0.015 U	-	-
1,2-Dichlorobenzene	mg/kg	4.55	0.013 U	0.015 U	-	-
1,2-Dichloroethane	mg/kg	0.00104	0.013 U	0.009 J	0.021 U	0.007 U
1,2-Dichloroethene (total)	mg/kg	0.375	-	-	0.021 U	0.007 UJ
1,2-Dichloropropane	mg/kg	0.00206	0.013 U	0.015 U	0.021 U	0.007 U
1,3-Dichlorobenzene	mg/kg	0.29	0.013 U	0.015 U	-	-
1,4-Dichlorobenzene	mg/kg	0.00714	0.013 U	0.015 U	-	-
2-Butanone (Methyl Ethyl Ketone)	mg/kg	29.0	0.013 U	0.015 U	-	-
2-Hexanone	mg/kg	-	0.013 U	0.015 U	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	58.8	0.013 U	0.015 U	-	-
Acetone	mg/kg	22.1	0.013 UJ	0.015 UJ	-	-
Benzene	mg/kg	0.00190	0.013 U	0.015 U	0.021 U	0.0051 J
Bromodichloromethane	mg/kg	0.00107	0.013 U	0.015 U	0.021 U	0.007 U
Bromoform	mg/kg	0.0667	0.013 U	0.015 U	0.021 U	0.007 U
Bromomethane (Methyl Bromide)	mg/kg	0.0414	0.013 U	0.015 U	0.042 UJ	0.014 UJ
Carbon disulfide	mg/kg	19.0	0.013 UL	0.015 UL	-	-
Carbon tetrachloride	mg/kg	0.00214	0.013 U	0.015 U	0.021 U	0.007 U
Chlorobenzene	mg/kg	0.68	0.013 U	0.015 U	0.021 U	0.007 UJ
Chloroethane	mg/kg	0.0192	0.013 U	0.015 U	0.042 UJ	0.014 UJ
Chloroform (Trichloromethane)	mg/kg	0.000907	0.009 B	0.043 B	0.018 J	0.011
Chloromethane (Methyl Chloride)	mg/kg	0.927	0.013 UJ	0.015 UJ	0.042 U	0.014 U
cis-1,2-Dichloroethene	mg/kg	0.349	0.013 U	0.015 U	-	-
cis-1,3-Dichloropropene	mg/kg	-	0.013 U	0.015 U	0.021 U	0.007 UJ
Cyclohexane	mg/kg	-	0.013 U	0.015 U	-	-
Dibromochloromethane	mg/kg	0.000826	0.013 U	0.015 U	0.021 U	0.007 U
Dichlorodifluoromethane (CFC-12)	mg/kg	11	0.013 UJ	0.015 UJ	-	-
Ethylbenzene	mg/kg	15.0	0.013 U	0.015 U	0.03	0.007 UJ
Isopropylbenzene	mg/kg	64.4	0.013 U	0.015 U	-	-
Methyl acetate	mg/kg	24.8	0.013 UJ	0.015 UJ	-	-
Methyl cyclohexane	mg/kg	-	0.013 U	0.015 U	-	-

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY**

**Sample Location:**

**Sample ID:**

**Sample Date:**

**Sample Depth:**

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

Parameters	Units	SOIL-2				
Methyl Tert Butyl Ether	mg/kg	0.0118	0.013 UL	0.015 UL	-	-
Methylene chloride	mg/kg	0.0190	0.005 B	0.008 B	0.042 UJ	0.014 UJ
Styrene	mg/kg	57.2	0.013 U	0.015 U	-	-
Tetrachloroethene	mg/kg	0.00466	0.007 J	0.045	0.09	0.011 J
Toluene	mg/kg	26.7	0.013 U	0.015 U	0.021 U	0.007 U
trans-1,2-Dichloroethene	mg/kg	0.823	0.013 U	0.01 J	-	-
trans-1,3-Dichloropropene	mg/kg	-	0.013 U	0.015 U	0.021 U	0.007 UJ
Trichloroethene	mg/kg	0.000263	0.013 U	0.003 J	0.012 J	0.007 U
Trichlorofluoromethane (CFC-11)	mg/kg	22.6	0.013 U	0.015 U	-	-
Trifluorotrichloroethane (Freon 113)	mg/kg	2341	0.013 U	0.015 U	-	-
Vinyl chloride	mg/kg	-	0.013 U	0.015 U	0.22	0.023
Vinyl chloride	mg/kg	0.000123	0.013 U	0.015 U	0.22	0.023
Xylene (total)	mg/kg	2.97	0.013 U	0.015 U	-	-

**Volatile Organic Compounds - TCLP**

1,1-Dichloroethene	mg/L	-	-	-	0.020 U	-
1,2-Dichloroethane	mg/L	-	-	-	0.020 U	-
Benzene	mg/L	-	-	-	0.030	-
Carbon tetrachloride	mg/L	-	-	-	0.020 U	-
Chlorobenzene	mg/L	-	-	-	0.020 U	-
Chloroform (Trichloromethane)	mg/L	-	-	-	0.020 U	-
Tetrachloroethene	mg/L	-	-	-	0.020 U	-
Trichloroethene	mg/L	-	-	-	0.020 U	-
Vinyl chloride	mg/L	-	-	-	0.050 U	-

**Volatile Organic Compounds - SPLP**

1,1,1-Trichloroethane	ug/L	-	2 U	2 U	-	-
1,1,2,2-Tetrachloroethane	ug/L	-	2 U	2 U	-	-
1,1,2-Trichloroethane	ug/L	-	2 U	2 U	-	-
1,1-Dichloroethane	ug/L	-	2 U	2 U	-	-
1,1-Dichloroethene	ug/L	-	2 U	2 U	-	-
1,2,4-Trichlorobenzene	ug/L	-	2 U	2 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	-	2 U	2 U	-	-
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	-	2 U	2 U	-	-
1,2-Dichlorobenzene	ug/L	-	2 U	2 U	-	-
1,2-Dichloroethane	ug/L	-	2 U	2 U	-	-
1,2-Dichloropropane	ug/L	-	2 U	2 U	-	-
1,3-Dichlorobenzene	ug/L	-	2 U	2 U	-	-
1,4-Dichlorobenzene	ug/L	-	2 U	2 U	-	-

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY**

Page 3 of 7

*Sample Location:*

*Sample ID:*

*Sample Date:*

*Sample Depth:*

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

Parameters	Units	SOIL-2				
2-Butanone (Methyl Ethyl Ketone)	ug/L	-	5 U	5 U	-	-
2-Hexanone	ug/L	-	5 U	5 U	-	-
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ug/L	-	5 U	5 U	-	-
Acetone	ug/L	-	5 U	5 U	-	-
Benzene	ug/L	-	0.7 U	0.7 U	-	-
Bromodichloromethane	ug/L	-	2 U	2 U	-	-
Bromoform	ug/L	-	2 U	2 U	-	-
Bromomethane (Methyl Bromide)	ug/L	-	2 U	2 U	-	-
Carbon disulfide	ug/L	-	2 U	2 U	-	-
Carbon tetrachloride	ug/L	-	2 U	2 U	-	-
Chlorobenzene	ug/L	-	2 U	2 U	-	-
Chloroethane	ug/L	-	2 U	2 U	-	-
Chloroform (Trichloromethane)	ug/L	-	2 U	2 U	-	-
Chloromethane (Methyl Chloride)	ug/L	-	2 U	2 U	-	-
cis-1,2-Dichloroethene	ug/L	-	2 U	2 U	-	-
cis-1,3-Dichloropropene	ug/L	-	2 U	2 U	-	-
Cyclohexane	ug/L	-	2 U	2 U	-	-
Dibromochloromethane	ug/L	-	2 U	2 U	-	-
Dichlorodifluoromethane (CFC-12)	ug/L	-	2 U	2 U	-	-
Ethylbenzene	ug/L	-	2 U	2 U	-	-
Isopropylbenzene	ug/L	-	2 U	2 U	-	-
Methyl acetate	ug/L	-	2 U	2 U	-	-
Methyl cyclohexane	ug/L	-	2 U	2 U	-	-
Methyl Tert Butyl Ether	ug/L	-	1 J	2	-	-
Methylene chloride	ug/L	-	45 B	2 U	-	-
Styrene	ug/L	-	2 U	2 U	-	-
Tetrachloroethene	ug/L	-	2 U	2 U	-	-
Toluene	ug/L	-	2 U	2 U	-	-
trans-1,2-Dichloroethene	ug/L	-	2 U	2 U	-	-
trans-1,3-Dichloropropene	ug/L	-	2 U	2 U	-	-
Trichloroethene	ug/L	-	2 U	2 U	-	-
Trichlorofluoromethane (CFC-11)	ug/L	-	2 U	2 U	-	-
Trifluorotrichloroethane (Freon 113)	ug/L	-	2 U	2 U	-	-
Vinyl chloride	ug/L	-	2 U	2 U	-	-
Xylene (total)	ug/L	-	2 U	2 U	-	-
<b>Semi-volatile Organic Compounds</b>						
1,2,4-Trichlorobenzene	mg/kg	2.35	-	-	2.8 UJ	1.9 U
1,2-Dichlorobenzene	mg/kg	4.55	-	-	2.8 UJ	1.9 U
1,2-Diphenylhydrazine	mg/kg	0.00254	-	-	2.8 UJ	1.9 U

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

Parameters	Units	SOIL-2				
1,3-Dichlorobenzene	mg/kg	0.29	-	-	2.8 UJ	1.9 U
1,4-Dichlorobenzene	mg/kg	0.00714	-	-	2.8 UJ	1.9 U
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ethe	mg/kg	0.00169	-	-	2.8 UJ	1.9 U
2,4,5-Trichlorophenol	mg/kg	-	-	-	2.8 UP	1.9 UP
2,4,6-Trichlorophenol	mg/kg	-	-	-	2.8 UR	1.9 U
2,4-Dichlorophenol	mg/kg	1.20	-	-	2.8 UR	1.9 U
2,4-Dimethylphenol	mg/kg	6.72	-	-	2.8 UR	1.9 U
2,4-Dinitrophenol	mg/kg	-	-	-	14 UR	9.3 U
2,4-Dinitrotoluene	mg/kg	0.572	-	-	2.8 UJ	1.9 U
2,6-Dinitrotoluene	mg/kg	0.247	-	-	2.8 UJ	1.9 U
2-Chloroethyl vinyl ether	mg/kg	-	-	-	0.042 U	0.014 UJ
2-Chloronaphthalene	mg/kg	32.1	-	-	2.8 UJ	1.9 U
2-Chlorophenol	mg/kg	-	-	-	2.8 UR	1.9 U
2-Methylnaphthalene	mg/kg	4.45	-	-	2.8 UP	1.9 UP
2-Methylphenol	mg/kg	-	-	-	2.8 UP	1.9 UP
2-Nitroaniline	mg/kg	-	-	-	14 UP	9.3 UP
2-Nitrophenol	mg/kg	-	-	-	2.8 UR	1.9 U
3,3'-Dichlorobenzidine	mg/kg	0.00491	-	-	5.5 UJ	3.7 U
3-Nitroaniline	mg/kg	-	-	-	14 UP	9.3 UP
4,6-Dinitro-2-methylphenol	mg/kg	-	-	-	R	9.3 U
4-Bromophenyl phenyl ether	mg/kg	-	-	-	2.8 UJ	1.9 U
4-Chloro-3-methylphenol	mg/kg	-	-	-	2.8 UR	1.9 U
4-Chloroaniline	mg/kg	0.97	-	-	2.8 UP	1.9 UP
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	2.8 UJ	1.9 U
4-Methylphenol	mg/kg	-	-	-	2.8 UP	1.9 UP
4-Nitroaniline	mg/kg	-	-	-	14 UP	9.3 UP
4-Nitrophenol	mg/kg	-	-	-	14 UR	9.3 UJ
Acenaphthene	mg/kg	105	-	-	2.8 UJ	1.9 U
Acenaphthylene	mg/kg	-	-	-	2.8 UJ	1.9 U
Acrolein	mg/kg	0.000202	-	-	0.21 UJ	0.07 UJ
Acrylonitrile	mg/kg	0.000149	-	-	0.21 U	0.07 UJ
Anthracene	mg/kg	466	-	-	2.8 UJ	1.9 U
Benzidine	mg/kg	-	-	-	2.8 UJ	1.9 UJ
Benzo(a)anthracene	mg/kg	1.46	-	-	2.8 UJ	1.9 U
Benzo(a)pyrene	mg/kg	0.374	-	-	2.8 UJ	1.9 U
Benzo(b)fluoranthene	mg/kg	4.51	-	-	2.8 UJ	1.9 U
Benzo(g,h,i)perylene	mg/kg	-	-	-	2.8 UJ	1.9 U
Benzo(k)fluoranthene	mg/kg	45.1	-	-	2.8 UJ	1.9 U
Benzoic acid	mg/kg	-	-	-	14 UP	9.3 UP
Benzyl Alcohol	mg/kg	146	-	-	2.8 UP	1.9 UP

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELRWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

Parameters	Units	SOIL-2				
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	2.8 UJ	1.9 U
bis(2-Chloroethyl)ether	mg/kg	0.0000437	-	-	2.8 UJ	1.9 U
bis(2-Ethylhexyl)phthalate	mg/kg	2890	-	-	2.8 UJ	0.74 J
Butyl benzylphthalate	mg/kg	16819	-	-	2.8 UJ	1.9 U
Chrysene	mg/kg	146	-	-	2.8 UJ	1.9 U
Dibenz(a,h)anthracene	mg/kg	1.39	-	-	2.8 UJ	1.9 U
Dibenzofuran	mg/kg	3.83	-	-	2.8 UJ	1.9 U
Diethyl phthalate	mg/kg	453	-	-	2.8 UJ	1.9 U
Dimethyl phthalate	mg/kg	-	-	-	2.8 UJ	1.9 U
Di-n-butylphthalate	mg/kg	4964	-	-	2.8 UJ	1.9 U
Di-n-octyl phthalate	mg/kg	4858886	-	-	2.8 UJ	1.9 U
Fluoranthene	mg/kg	6255	-	-	2.8 UJ	1.9 U
Fluorene	mg/kg	135	-	-	2.8 UJ	1.9 U
Hexachlorobenzene	mg/kg	0.0515	-	-	2.8 UJ	1.9 U
Hexachlorobutadiene	mg/kg	1.85	-	-	2.8 UJ	1.9 U
Hexachlorocyclopentadiene	mg/kg	1753	-	-	2.8 UJ	1.9 U
Hexachloroethane	mg/kg	0.361	-	-	2.8 UJ	1.9 U
Indeno(1,2,3-cd)pyrene	mg/kg	12.7	-	-	2.8 UJ	1.9 U
Isophorone	mg/kg	0.415	-	-	2.8 UJ	1.9 U
Naphthalene	mg/kg	0.154	-	-	2.8 UJ	1.9 U
Nitrobenzene	mg/kg	0.0233	-	-	2.8 UJ	1.9 U
N-Nitrosodimethylamine	mg/kg	0.00000567	-	-	2.8 UJ	1.9 UJ
N-Nitrosodi-n-propylamine	mg/kg	0.0000475	-	-	2.8 UJ	1.9 U
N-Nitrosodiphenylamine	mg/kg	0.760	-	-	2.8 UJ	1.9 U
Pentachlorophenol	mg/kg	-	-	-	14 UR	9.3 UJ
Phenanthrene	mg/kg	-	-	-	2.8 UJ	1.9 U
Phenol	mg/kg	66.6	-	-	2.8 UR	1.9 U
Pyrene	mg/kg	682	-	-	2.8 UJ	1.9 U
trans-1,2-Dichloroethene	mg/kg	0.823	-	-	0.021 UP	0.007 UP
Trichlorofluoromethane (CFC-11)	mg/kg	22.6	-	-	0.021 U	0.007 U

Semi-volatile Organic Compounds - TCLP

1,4-Dichlorobenzene	mg/L	-	-	-	0.040 U	-
2,4,5-Trichlorophenol	mg/L	-	-	-	0.040 U	-
2,4,6-Trichlorophenol	mg/L	-	-	-	0.040 U	-
2,4-Dinitrotoluene	mg/L	-	-	-	0.040 U	-
2,6-Dinitrotoluene	mg/L	-	-	-	0.250 U	-
Hexachlorobenzene	ug/L	-	-	-	0.04 U	-
Hexachlorobutadiene	mg/L	-	-	-	0.040 U	-
Hexachloroethane	mg/L	-	-	-	0.040 U	-

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

**Parameters**

Methylphenol (Cresol)  
Nitrobenzene  
Pentachlorophenol  
Pyridine

Units	SOIL-2
mg/L	-
mg/L	-
mg/L	-
mg/L	-

**Metals**

Aluminum  
Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Calcium  
Chromium Total  
Cobalt  
Copper  
Iron  
Lead  
Magnesium  
Manganese  
Mercury  
Nickel  
Potassium  
Selenium  
Silver  
Sodium  
Thallium  
Vanadium  
Zinc

mg/kg	-	7630	6060	-	-
mg/kg	13.2	0.96 BL	0.77 BL	8.3 U	5.6 U
mg/kg	0.0261	2.8	2.1	2.5	1.4 U
mg/kg	6015.2	47.0	24.7 J	42 U	28 U
mg/kg	1154	0.33 J	0.40 J	1 UJ	0.7 UJ
mg/kg	-	0.52 J	0.33 J	1 U	0.70 U
mg/kg	-	176000	624 J	-	-
mg/kg	-	13.0	14.2	6.2	18
mg/kg	-	5.1 J	5.7 J	-	-
mg/kg	10518	15.7 J	4.5 J	21 U	14 U
mg/kg	-	10200	10900	5200	1500
mg/kg	800	23.1	5.2	24	7.2
mg/kg	-	5380	402 J	-	-
mg/kg	952	152	199	63	24
mg/kg	2	51.9	1.1	80	0.66
mg/kg	-	9.2 J	6.5 J	5.9	3.5 U
mg/kg	-	811 J	320 J	-	-
mg/kg	19.0	0.39 U	0.38 U	1.0 UJ	0.70 U
mg/kg	31.0	0.065 U	0.064 U	2.1 U	1.4 U
mg/kg	-	2530 J	36.2 B	3700	430
mg/kg	3.64	0.49 B	1.1 B	2.1 U	1.4 U
mg/kg	730	13.6	16.5	-	-
mg/kg	13622	70.4	44.4	57	74

**Metals - TCLP**

Arsenic  
Barium  
Cadmium  
Chromium Total  
Lead  
Mercury  
Selenium  
Silver

mg/L	-	-	-	3.00 U	-
mg/L	-	-	-	0.224	-
mg/L	-	-	-	0.05 U	-
mg/L	-	-	-	0.1 U	-
mg/L	-	-	-	0.500 U	-
mg/L	-	-	-	0.001 U	-
mg/L	-	-	-	3.00 U	-
mg/L	-	-	-	0.100 U	-

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
ALL DATA SCREENED TO SOIL-2  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY**

<i>Sample Location:</i>	CFTA-1	CFTA-2	WB-14-1993	WB-14A-1993
<i>Sample ID:</i>	SO-7462-061507-EAP-019	SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
<i>Sample Date:</i>	6/15/2007	6/15/2007	9/22/1993	9/22/1993
<i>Sample Depth:</i>	(8-10) ft BGS	(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

<i>Parameters</i>	<i>Units</i>	<i>SOIL-2</i>				
<i>Metals - SPLP</i>						
Aluminum	ug/L	-	75.8 B	940	-	-
Antimony	ug/L	-	1.6 U	1.6 U	-	-
Arsenic	ug/L	-	2.9 J	2.0 U	-	-
Barium	ug/L	-	52.6 J	179 J	-	-
Beryllium	ug/L	-	0.11 B	0.31 B	-	-
Cadmium	ug/L	-	0.64 B	0.16 U	-	-
Calcium	ug/L	-	632000	14400	-	-
Chromium Total	ug/L	-	2.2 B	2.0 B	-	-
Cobalt	ug/L	-	1.3 B	0.40 U	-	-
Copper	ug/L	-	12.6 J	0.44 U	-	-
Iron	ug/L	-	59.9 B	837	-	-
Lead	ug/L	-	1.1 U	1.1 U	-	-
Magnesium	ug/L	-	1890 J	486 J	-	-
Manganese	ug/L	-	8.2 J	5.0 J	-	-
Mercury	ug/L	-	0.10 UL	0.10 UL	-	-
Nickel	ug/L	-	2.5 B	0.81 B	-	-
Potassium	ug/L	-	2830 J	480 J	-	-
Selenium	ug/L	-	3.0 U	3.0 U	-	-
Silver	ug/L	-	25.7 U	25.7 U	-	-
Sodium	ug/L	-	4440 J	4190 J	-	-
Thallium	ug/L	-	2.2 U	2.2 U	-	-
Vanadium	ug/L	-	1.1 U	1.5 J	-	-
Zinc	ug/L	-	40.5 B	39.6 B	-	-
<i>General Chemistry</i>						
Percent Moisture	%	-	21.8	20.2	-	-
Percent Moisture	%v/v	-	-	-	52	29
pH (water)	pH units	-	-	-	11 J	8.1 J
Phenolics (Total)	mg/kg	-	-	-	0.521 U	0.352 U
Total Organic Carbon (TOC)	mg/kg	-	-	-	13000	8000

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
EXCEEDANCES WITH STATS  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

Sample Location:  
Sample ID:  
Sample Date:  
Sample Depth:

CFTA-1  
SO-7462-061507-EAP-018  
6/15/2007  
(0-2) ft BGS

Parameters	Units	SOIL-2	Number of Samples	Number of Detects Above Criteria	Maximum Detected	Max Detected Location	Sample Date of Max Detected	Number of Times Above Standard	
<b>Volatile Organic Compounds</b>									
1,2-Dichloroethane	mg/kg	0.00104	7	3	0.47	SB-03	10/21/1993	451.92	0.012 U
Benzene	mg/kg	0.00190	7	3	0.035	SB-03	10/21/1993	18.42	0.012 U
Chloroform (Trichloromethane)	mg/kg	0.000907	7	1	0.017 J	SB-03	10/21/1993	18.74	0.012 U
Tetrachloroethene	mg/kg	0.00466	7	1	0.013 J	SB-03	10/21/1993	2.79	0.012 U
Vinyl chloride	mg/kg	0.000123	7	2	0.94	SB-03	10/21/1993	7642.28	0.012 U
<b>Metals</b>									
Arsenic	mg/kg	0.0261	7	6	4.5	SB-03	10/21/1993	172.41	3.0
Manganese	mg/kg	952	7	1	1600	SB-03	10/21/1993	1.68	200

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
EXCEEDANCES WITH STATS  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-2	CFTA-2	SB-03	SB-03	SB-03
SO-7462-061507-EAP-014	SO-7462-061507-EAP-015	7462-102193-SB-03 (4-6)	7462-102193-SB-03 (8-10)	7462-102193-SB-03 (10-12)
6/15/2007	6/15/2007	10/21/1993	10/21/1993	10/21/1993
(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(4-6) ft bgs	(8-10) ft bgs	(10-12) ft bgs

Parameters

Units SOIL-2

**Volatile Organic Compounds**

1,2-Dichloroethane	mg/kg	0.00104	0.01 U	0.008 U	0.0098	0.47	0.011
Benzene	mg/kg	0.00190	0.01 U	0.008 U	0.0046 J	0.035	0.0028 J
Chloroform (Trichloromethane)	mg/kg	0.000907	0.01 U	0.008 U	0.0057 U	0.017 J	0.0054 U
Tetrachloroethene	mg/kg	0.00466	0.01 U	0.008 U	0.0057 U	0.013 J	0.0054 U
Vinyl chloride	mg/kg	0.000123	0.01 U	0.008 U	0.011 U	0.94	0.039

**Metals**

Arsenic	mg/kg	0.0261	4.1	3.1	2.9	1.2 U	3.2
Manganese	mg/kg	952	228	245	310	1600	460

ANALYTICAL RESULTS SUMMARY  
SOIL SAMPLING  
EXCEEDANCES WITH STATS  
GLENN SPRINGS HOLDINGS, INC.  
DELAWARE CITY

*Sample Location:* SB-03  
*Sample ID:* 7462-102193-SB-03 (15-17)  
*Sample Date:* 10/21/1993  
*Sample Depth:* (15-17) ft bgs

Parameters	Units	SOIL-2	
<i>Volatile Organic Compounds</i>			
1,2-Dichloroethane	mg/kg	0.00104	0.0054 U
Benzene	mg/kg	0.00190	0.0054 U
Chloroform (Trichloromethane)	mg/kg	0.000907	0.0054 U
Tetrachloroethene	mg/kg	0.00466	0.0054 U
Vinyl chloride	mg/kg	0.000123	0.011 U
<i>Metals</i>			
Arsenic	mg/kg	0.0261	4.5
Manganese	mg/kg	952	320

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
EXCEEDANCES WITH STATS  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-1

SO-7462-061507-EAP-019

6/15/2007

(8-10) ft BGS

Parameters

Units	SOIL-1	Number of Samples	Number of Detects Above Criteria	Maximum Detected	Max Detected Location	Sample Date of Max Detected	Number of Times Above Standard
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Metals

Mercury

mg/kg	6.5	4	2	80	WB-14-1993	9/22/1993	12.31	51.9
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ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
EXCEEDANCES WITH STATS  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

Parameters

Units SOIL-1

Metals

Mercury

mg/kg	6.5	1.1	80	0.66
-------	-----	-----	----	------

ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
EXCEEDANCES WITH STATS  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY

Sample Location:  
Sample ID:  
Sample Date:  
Sample Depth:

CFTA-1  
SO-7462-061507-EAP-019  
6/15/2007  
(8-10) ft BGS

Parameters	Units	SOIL-2	Number of Samples	Number of Detects Above Criteria	Maximum Detected	Max Detected Location	Sample Date of Max Detected	Number of Times Above Standard	
<b>Volatile Organic Compounds</b>									
1,2-Dichloroethane	mg/kg	0.00104	4	1	0.009 J	CFTA-2	6/15/2007	8.65	0.013 U
Benzene	mg/kg	0.00190	4	1	0.0051 J	WB-14A-1993	9/22/1993	2.68	0.013 U
Chloroform (Trichloromethane)	mg/kg	0.000907	4	4	0.043 B	CFTA-2	6/15/2007	47.41	0.009 B
Tetrachloroethene	mg/kg	0.00466	4	4	0.09	WB-14-1993	9/22/1993	19.31	0.007 J
Trichloroethene	mg/kg	0.000263	4	2	0.012 J	WB-14-1993	9/22/1993	45.63	0.013 U
Vinyl chloride	mg/kg	0.000123	4	2	0.22	WB-14-1993	9/22/1993	1788.62	0.013 U
<b>Metals</b>									
Arsenic	mg/kg	0.0261	4	3	2.8	CFTA-1	6/15/2007	107.28	2.8
Mercury	mg/kg	2	4	2	80	WB-14-1993	9/22/1993	40.00	51.9

**ANALYTICAL RESULTS SUMMARY  
SOLID WASTE SAMPLES  
EXCEEDANCES WITH STATS  
GLENN SPRINGS HOLDINGS, INC.  
DELWARE CITY**

*Sample Location:*

*Sample ID:*

*Sample Date:*

*Sample Depth:*

CFTA-2	WB-14-1993	WB-14A-1993
SO-7462-061507-EAP-016	7462-092293-WB-14 (2-4)	7462-092293-WB-14A (2-4)
6/15/2007	9/22/1993	9/22/1993
(8-10) ft BGS	(2-4) ft bgs	(2-4) ft bgs

**Parameters**

**Units SOIL-2**

**Volatile Organic Compounds**

1,2-Dichloroethane	mg/kg	0.00104	0.009 J	0.021 U	0.007 U
Benzene	mg/kg	0.00190	0.015 U	0.021 U	0.0051 J
Chloroform (Trichloromethane)	mg/kg	0.000907	0.043 B	0.018 J	0.011
Tetrachloroethene	mg/kg	0.00466	0.045	0.09	0.011 J
Trichloroethene	mg/kg	0.000263	0.003 J	0.012 J	0.007 U
Vinyl chloride	mg/kg	0.000123	0.015 U	0.22	0.023

**Metals**

Arsenic	mg/kg	0.0261	2.1	2.5	1.4 U
Mercury	mg/kg	2	1.1	80	0.66

## APPENDIX B

### ALTERNATIVES COST ESTIMATES

**SUMMARY**  
**SWMU 12- CHEMFIX TEST UNIT AREA**  
**REMEDIAL ALTERNATIVES COST ESTIMATES**  
**GSHI, DELAWARE CITY FACILITY**

AOC/Alt	Capital	Annual O&M	Present Value
SWMU 12			
Alt 1	\$0	\$1,000	\$22,000
Alt 2	\$23,000	\$1,000	\$45,000
Alt 3	\$87,000	\$1,000	\$109,000
Alt 4	\$9,370,000	\$0	\$9,370,000
Alt 4a	\$2,256,000	\$0	\$2,256,000
Alt 4b	\$1,408,000	\$0	\$1,408,000

**PRESENT WORTH ANALYSIS**  
**SWMU 12- ALTERNATIVE 1**  
**NO ACTION**

**GSHI, DELAWARE CITY FACILITY**

-----							
OPERATION AND MAINTENANCE COSTS							
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOT. ANNUAL COST (\$)	OPERATING TIME (yrs)	BEGIN YEAR	PRESENT WORTH (\$)
-----							
	5%						
<b>Maintenance of Cover</b>							
Grass mowing, maintenance	Biweekly	16	\$50	\$800	30		\$12,900
<b>Performance Monitoring</b>							
Inspections	Annual	4	\$100	\$400	30		\$6,500
<b>Subtotal O&amp;M Costs</b>				<u>\$1,200</u>			<u>\$19,400</u>
Contingency (15%)				<u>\$180</u>			<u>\$2,910</u>
<b>TOTAL ANNUAL O&amp;M COSTS</b>				<u>\$1,000</u>			<u>\$22,000</u>
-----							
<b>TOTAL PRESENT WORTH (ROUNDED)</b>							<b>\$22,000</b>

Notes:

\* A discount rate of 5% was used for present worth calculations to determine costs in 2008 dollars.  
 Present Worth for O&M costs assumes payments are made at the beginning of the period.

**PRESENT WORTH ANALYSIS**  
**SWMU 12- ALTERNATIVE 2**  
**INSTITUTIONAL CONTROLS**

**GSHI, DELAWARE CITY FACILITY**

CAPITAL COSTS					
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOTAL COST (\$)	PRESENT WORTH (\$)
Site Mobilization/Demobilization	L.S.	1	\$5,000	\$5,000	\$5,000
Perimeter Fence	LF	680	\$15	\$10,200	\$10,200
Gates (1 Truck, 2 Man)	L.S.	1	\$1,500	\$1,500	\$1,500
<b>Subtotal Capital Costs</b>				\$15,200	\$16,700
Contingency (15%)					\$2,505.00
Engineering (15%)					\$2,505.00
Construction Oversight (10%)					\$1,670.00
<b>TOTAL CAPITAL COSTS</b>					<b>\$23,000</b>

OPERATION AND MAINTENANCE COSTS							
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOT. ANNUAL COST (\$)	OPERATING TIME (yrs)	BEGIN YEAR	PRESENT WORTH (\$)
5%							
<b>Maintenance of Cover</b>							
Grass mowing, maintenance	Biweekly	16	\$50	\$800	30		\$12,900
<b>Performance Monitoring</b>							
Inspections	Annual	4	\$100	\$400	30		\$6,500
<b>Subtotal O&amp;M Costs</b>				\$1,200			\$19,400
Contingency (15%)				\$180			\$2,910
<b>TOTAL ANNUAL O&amp;M COSTS</b>				<b>\$1,000</b>			<b>\$22,000</b>

**TOTAL PRESENT WORTH (ROUNDED)**

**\$45,000**

Notes:

\* A discount rate of 5% was used for present worth calculations to determine costs in 2008 dollars.  
 Present Worth for O&M costs assumes payments are made at the beginning of the period.

**PRESENT WORTH ANALYSIS**  
**SWMU 12 - ALTERNATIVE 3**  
**COVER- VEGETATIVE SOIL (2 FEET)**

**GSHI, DELAWARE CITY FACILITY**

CAPITAL COSTS							
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)		TOTAL COST (\$)		PRESENT WORTH (\$)
<b>Site Mobilization/Demobilization</b>	L.S.	1	\$10,000		\$10,000		\$10,000
<b>Vegetated Soil Cover</b>							
Vegetated Cover- Hydroseed	Acre	0.8	\$1,500		\$1,200		\$1,200
Topsoil, 0.5 feet	CY	645	\$20		\$12,907		\$12,907
Common Fill, 1.5 feet	CY	1936	\$15		\$29,040		\$29,040
Snow Fence- Visual Barrier	SF	34848	\$0.25		\$8,712		\$8,712
<b>Subtotal Capital Costs</b>					<b>\$61,859</b>		<b>\$61,859</b>
Contingency (15%)							\$9,279
Engineering (15%)							\$9,279
Construction Oversight (10%)							\$6,186
<b>TOTAL CAPITAL COSTS</b>							<b>\$87,000</b>
OPERATION AND MAINTENANCE COSTS							
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOT. ANNUAL COST (\$)	OPERATING TIME (yrs)	BEGIN YEAR	PRESENT WORTH (\$)
	5%						
<b>Maintenance of Cover</b>							
Grass mowing, maintenance	Biweekly	16	\$50	\$800	30		\$12,900
<b>Performance Monitoring</b>							
Inspections	Annual	4	\$100	\$400	30		\$6,500
<b>Subtotal O&amp;M Costs</b>				<b>\$1,200</b>			<b>\$19,400</b>
Contingency (15%)				<b>\$180</b>			<b>\$2,910</b>
<b>TOTAL ANNUAL O&amp;M COSTS</b>				<b>\$1,000</b>			<b>\$22,000</b>
<b>TOTAL PRESENT WORTH (ROUNDED)</b>							<b>\$109,000</b>

Notes:

\* A discount rate of 5% was used for present worth calculations to determine costs in 2008 dollars.

Present Worth for O&M costs assumes payments are made at the beginning of the period.

**PRESENT WORTH ANALYSIS**  
**SWMU 12- ALTERNATIVE 4**  
**EXCAVATION /COVER- VEGETATIVE SOIL (2 FEET)**  
(Offsite Disposal- Hazardous Waste)  
**GSHI, DELAWARE CITY FACILITY**

CAPITAL COSTS					
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOTAL COST (\$)	PRESENT WORTH (\$)
Site Mobilization/Demobilization	L.S.	1	\$10,000	\$10,000	\$10,000
Site Preparation- Erosion & Sedimentation Control Measures	L.S.	1	\$15,000	\$15,000	\$15,000
Decommission Monitoring Wells (A-27S, A-27D)	L.S.	1	\$5,000	\$5,000	\$5,000
Excavation (0-10 ft.)	CY	9680	\$10	\$96,800	\$96,800
Offsite Disposal T & D, EQ Michigan	Tons	14520	\$450	\$6,534,000	\$6,534,000
Vegetated Soil Cover (2 ft.)					
Vegetated Cover- Hydroseed	Acre	0.6	\$1,500	\$900	\$900
Topsoil, 0.5 feet	CY	484	\$20	\$9,680	\$9,680
Common Fill, 1.5 feet	CY	1452	\$15	\$21,780	\$21,780
<b>Subtotal Capital Costs</b>				\$6,693,160	\$6,693,160
Contingency (15%)					\$1,003,974
Engineering (15%)					\$1,003,974
Construction Oversight (10%)					\$669,316
<b>TOTAL CAPITAL COSTS</b>					<b>\$9,370,000</b>

OPERATION AND MAINTENANCE COSTS							
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOT. ANNUAL COST (\$)	OPERATING TIME (yrs)	BEGIN YEAR	PRESENT WORTH (\$)
5%							
No O&M Required				\$0			\$0
<b>TOTAL ANNUAL O&amp;M COSTS</b>				<b>\$0</b>			<b>\$0</b>

**TOTAL PRESENT WORTH (ROUNDED)** **\$9,370,000**

Notes:

\* A discount rate of 5% was used for present worth calculations to determine costs in 2008 dollars.  
Present Worth for O&M costs assumes payments are made at the beginning of the period.

**PRESENT WORTH ANALYSIS**  
**SWMU 12- ALTERNATIVE 4a**  
**EXCAVATION /COVER- VEGETATIVE SOIL (2 FEET)**  
(Offsite Disposal- Nonhazardous Waste)  
**GSHI, DELAWARE CITY FACILITY**

CAPITAL COSTS					
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOTAL COST (\$)	PRESENT WORTH (\$)
Site Mobilization/Demobilization	L.S.	1	\$10,000	\$10,000	\$10,000
Site Preparation- Erosion & Sedimentation Control Measures	L.S.	1	\$15,000	\$15,000	\$15,000
Decommission Monitoring Wells (A-27S, A-27D)	L.S.	1	\$5,000	\$5,000	\$5,000
Excavation (0-10 ft.)	CY	9680	\$10	\$96,800	\$96,800
Offsite Disposal T & D, Nonhazardous Landfill	Tons	14520	\$100	\$1,452,000	\$1,452,000
Vegetated Soil Cover (2 ft.)					
Vegetated Cover- Hydroseed	Acre	0.6	\$1,500	\$900	\$900
Topsoil, 0.5 feet	CY	484	\$20	\$9,680	\$9,680
Common Fill, 1.5 feet	CY	1452	\$15	\$21,780	\$21,780
<b>Subtotal Capital Costs</b>				\$1,611,160	\$1,611,160
Contingency (15%)					\$241,674
Engineering (15%)					\$241,674
Construction Oversight (10%)					\$161,116
<b>TOTAL CAPITAL COSTS</b>					<b>\$2,256,000</b>

OPERATION AND MAINTENANCE COSTS							
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOT. ANNUAL COST (\$)	OPERATING TIME (yrs)	BEGIN YEAR	PRESENT WORTH (\$)
		5%					
No O&M Required				\$0			
<b>TOTAL ANNUAL O&amp;M COSTS</b>				<b>\$0</b>			<b>\$0</b>

**TOTAL PRESENT WORTH (ROUNDED)** **\$2,256,000**

Notes:

\* A discount rate of 5% was used for present worth calculations to determine costs in 2008 dollars.  
Present Worth for O&M costs assumes payments are made at the beginning of the period.

**PRESENT WORTH ANALYSIS**  
**SWMU 12- ALTERNATIVE 4b**  
**EXCAVATION /COVER- VEGETATIVE SOIL (2 FT.)**  
(Onsite Disposal- Hazardous Waste)  
**GSHI, DELAWARE CITY FACILITY**

CAPITAL COSTS					
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOTAL COST (\$)	PRESENT WORTH (\$)
Site Mobilization/Demobilization	L.S.	1	\$10,000	\$10,000	\$10,000
Site Preparation- Erosion & Sedimentation Control Measures	L.S.	1	\$15,000	\$15,000	\$15,000
Decommision Monitoring Wells (A-27S, A-27D)	L.S.	1	\$5,000	\$5,000	\$5,000
Excavation (0-10 ft.)	CY	9680	\$10	\$96,800	\$96,800
Transfer to NBSL Cell 3 (onsite disposal)	CY	9680	\$10	\$96,800	\$96,800
NBSL Cell 3 Construction & Enclosure (cost is applied to AOC 8 remedy)	L.S.	1	\$750,000	\$750,000	\$750,000
Vegetated Soil Cover (2 ft.)					
Vegetated Cover- Hydroseed	Acre	0.6	\$1,500	\$900	\$900
Topsoil, 0.5 feet	CY	484	\$20	\$9,680	\$9,680
Common Fill, 1.5 feet	CY	1452	\$15	\$21,780	\$21,780
<b>Subtotal Capital Costs</b>				<b>\$1,005,960</b>	<b>\$1,005,960</b>
Contingency (15%)					\$150,894
Engineering (15%)					\$150,894
Construction Oversight (10%)					\$100,596
<b>TOTAL CAPITAL COSTS</b>					<b>\$1,408,000</b>

OPERATION AND MAINTENANCE COSTS							
DESCRIPTION	UNITS	QUANTITY	UNIT COST (\$)	TOT. ANNUAL COST (\$)	OPERATING TIME (yrs)	BEGIN YEAR	PRESENT WORTH (\$)
		5%					
No O&M Required				\$0			
<b>TOTAL ANNUAL O&amp;M COSTS</b>				<b>\$0</b>			<b>\$0</b>

**TOTAL PRESENT WORTH (ROUNDED)** **\$1,408,000**

Notes:

\* A discount rate of 5% was used for present worth calculations to determine costs in 2008 dollars.  
Present Worth for O&M costs assumes payments are made at the beginning of the period.